

Pm 920030203 us1
1/50

WALKER B. CARROLL

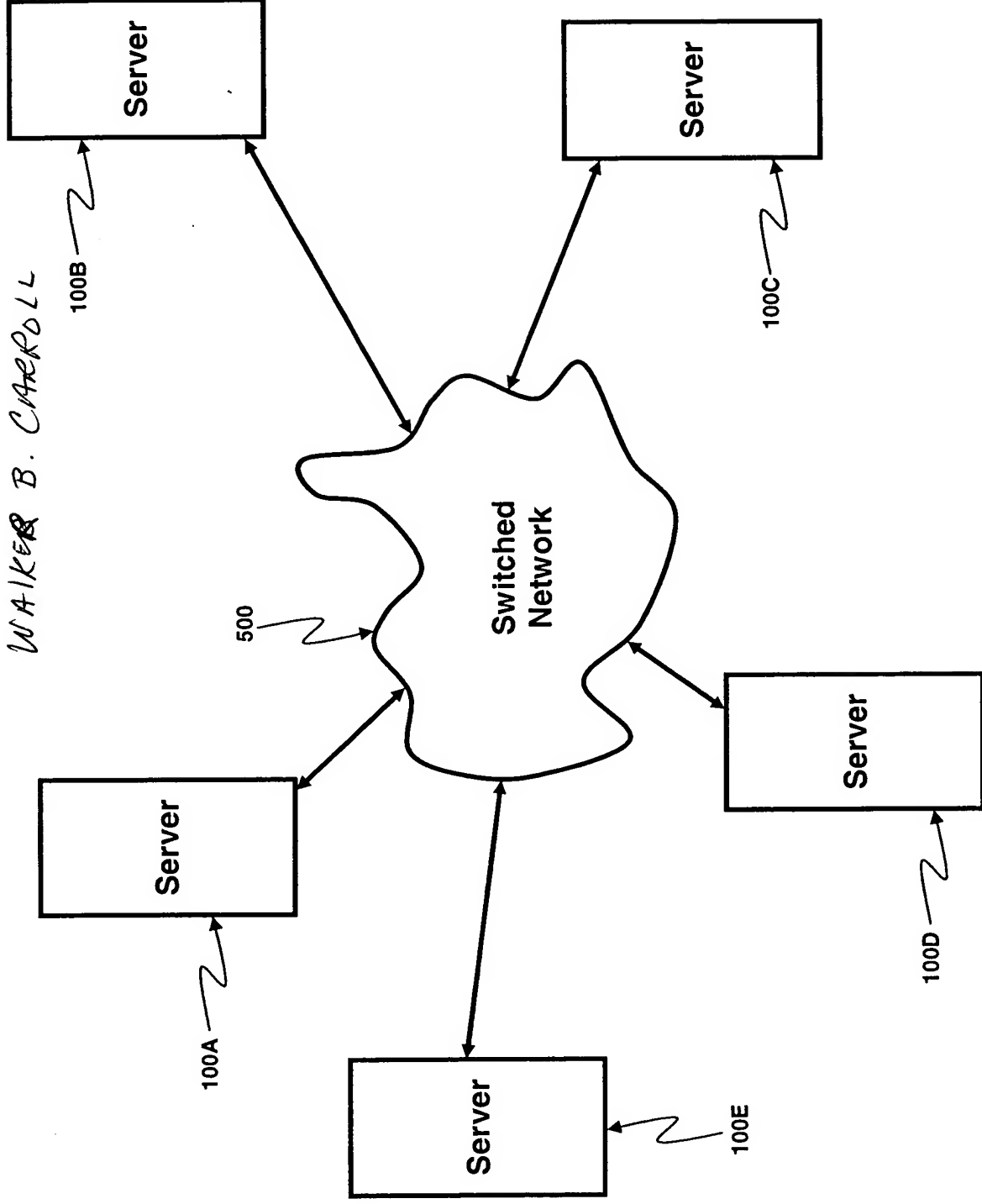


Figure 1

2/50

Large Systems

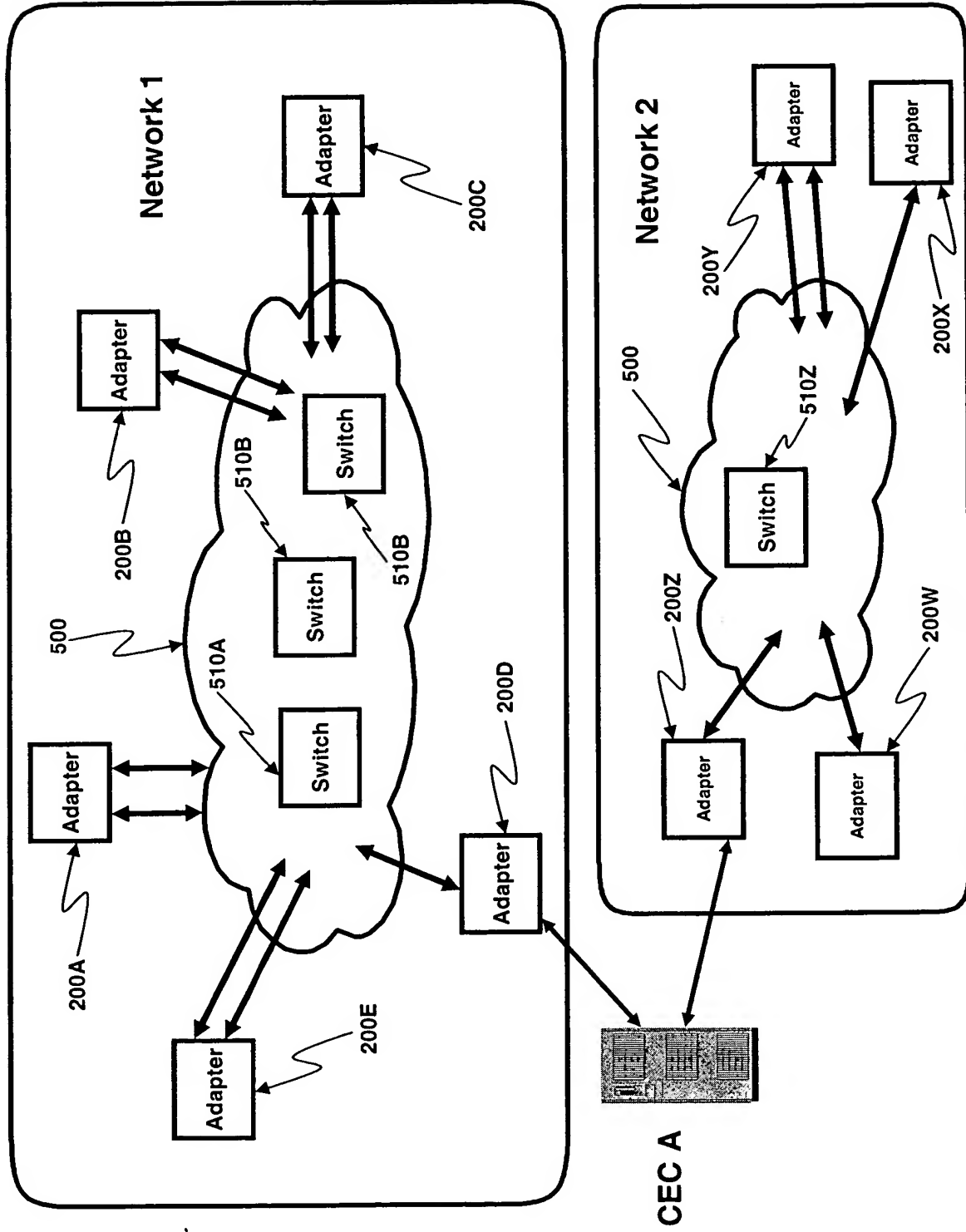


Figure 2

3/52

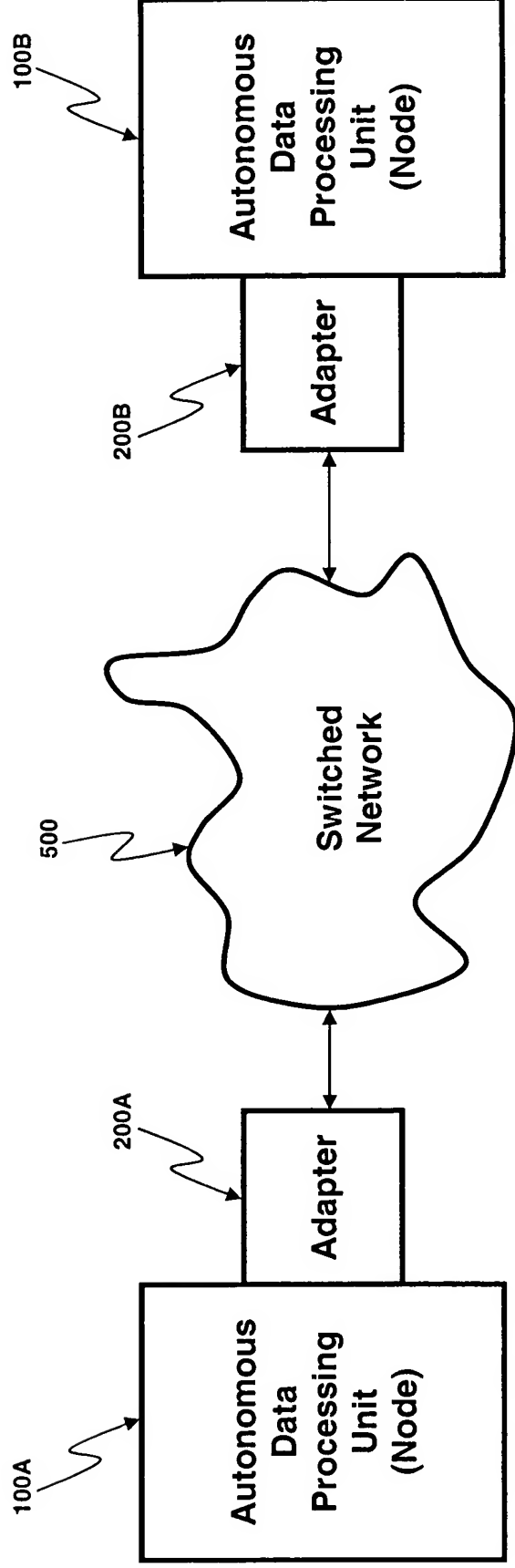


Figure 3

4/50

Send-Receive

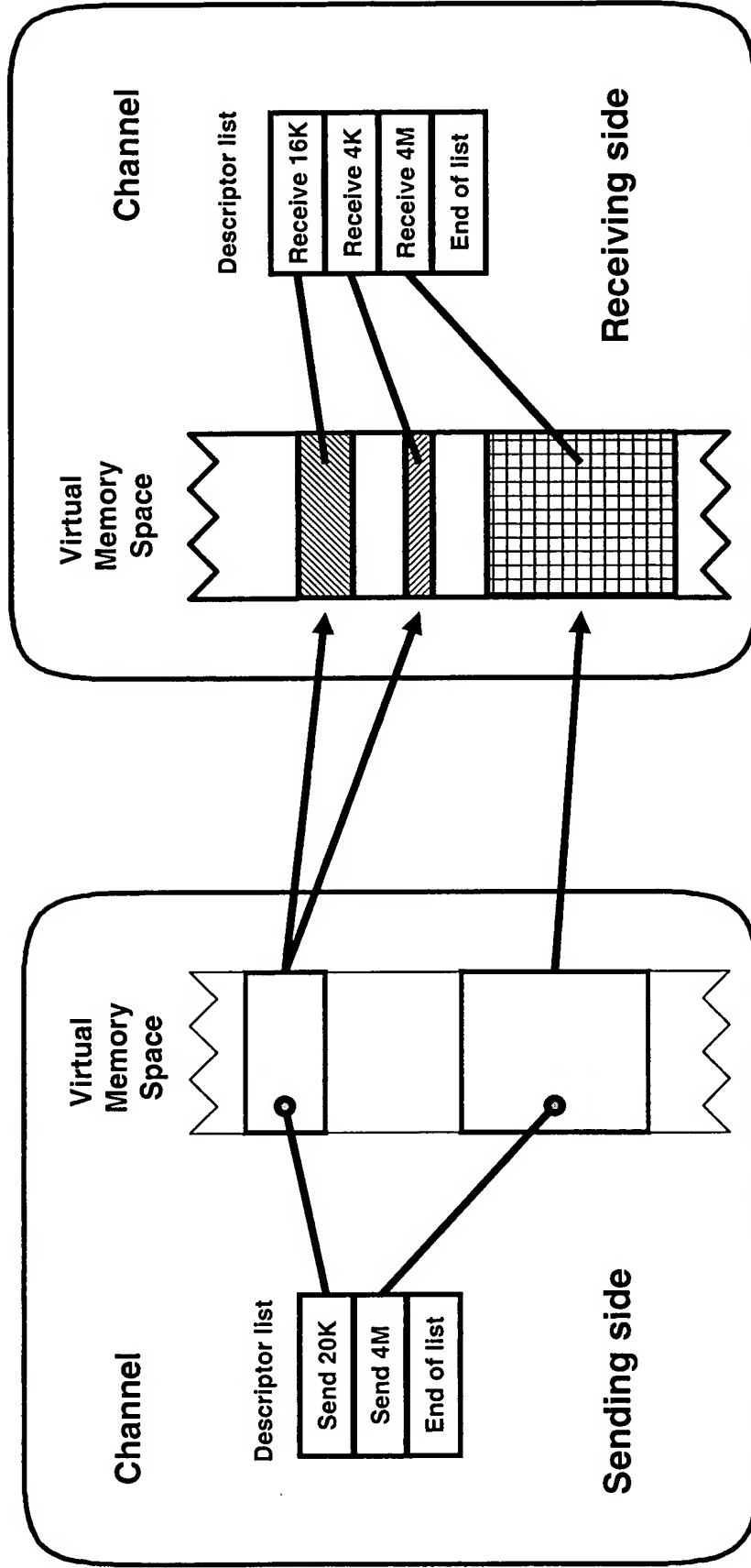


Figure 4

25/5

Remote Read-Write

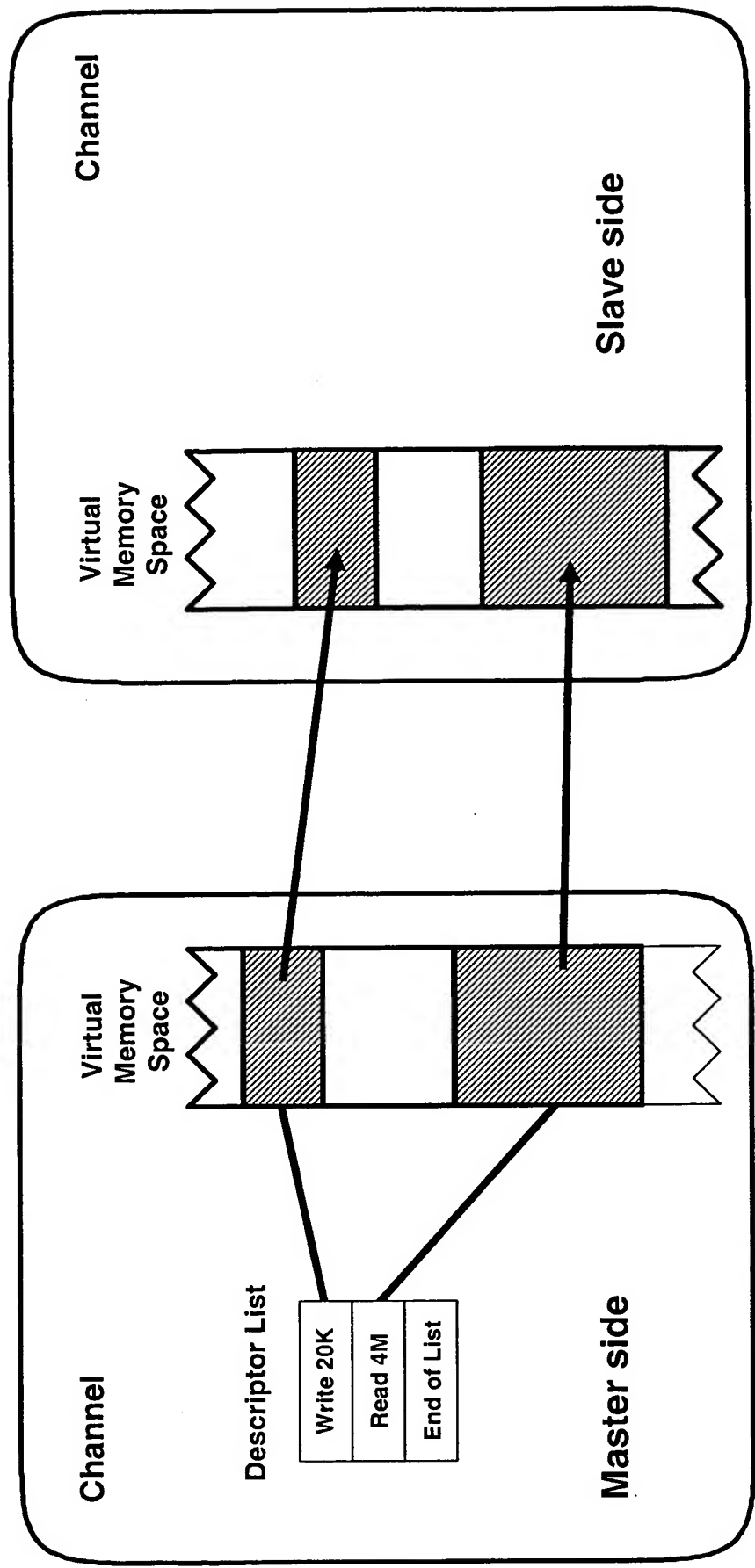


Figure 5

6/50

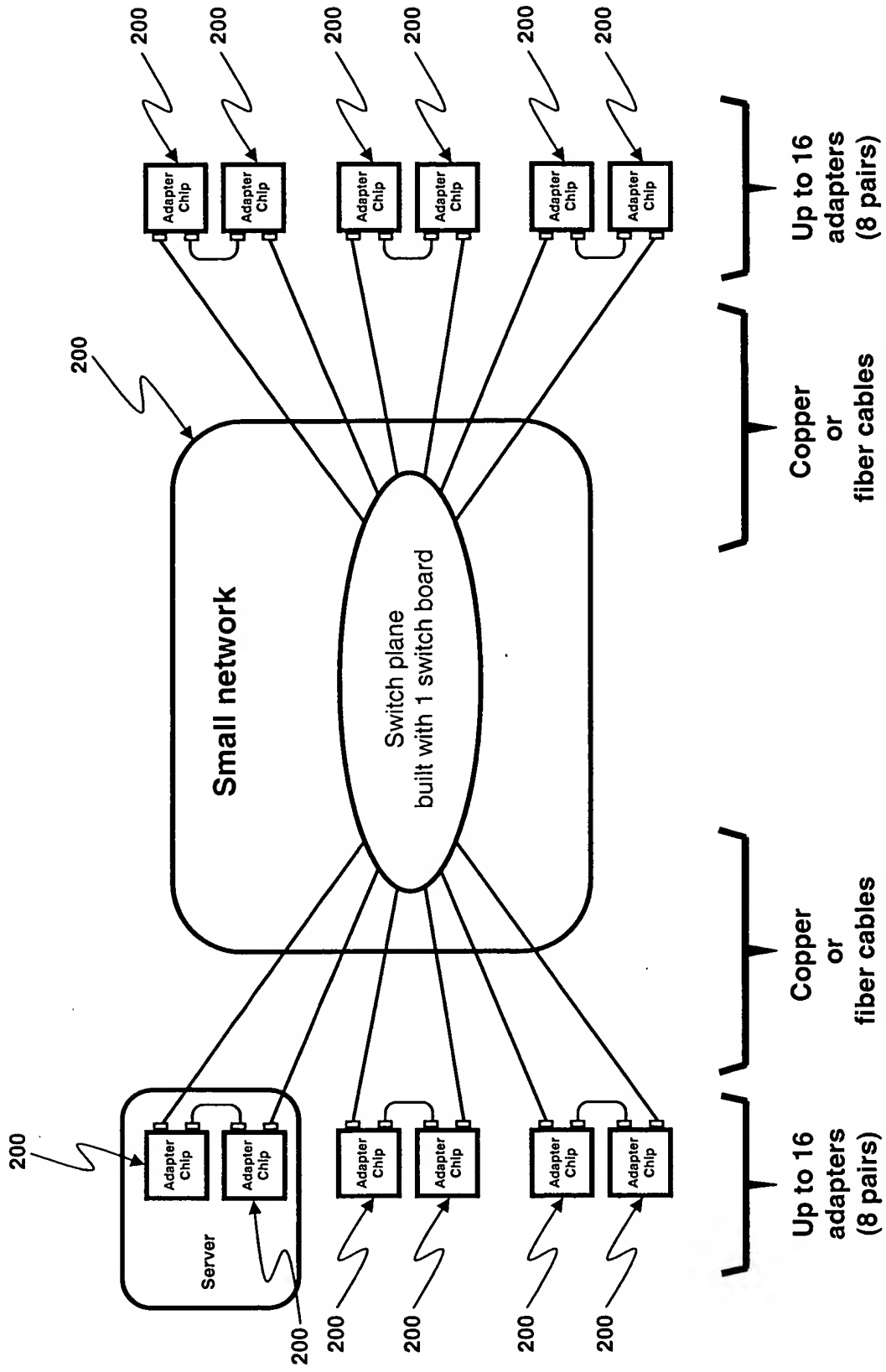


Figure 6

7/50

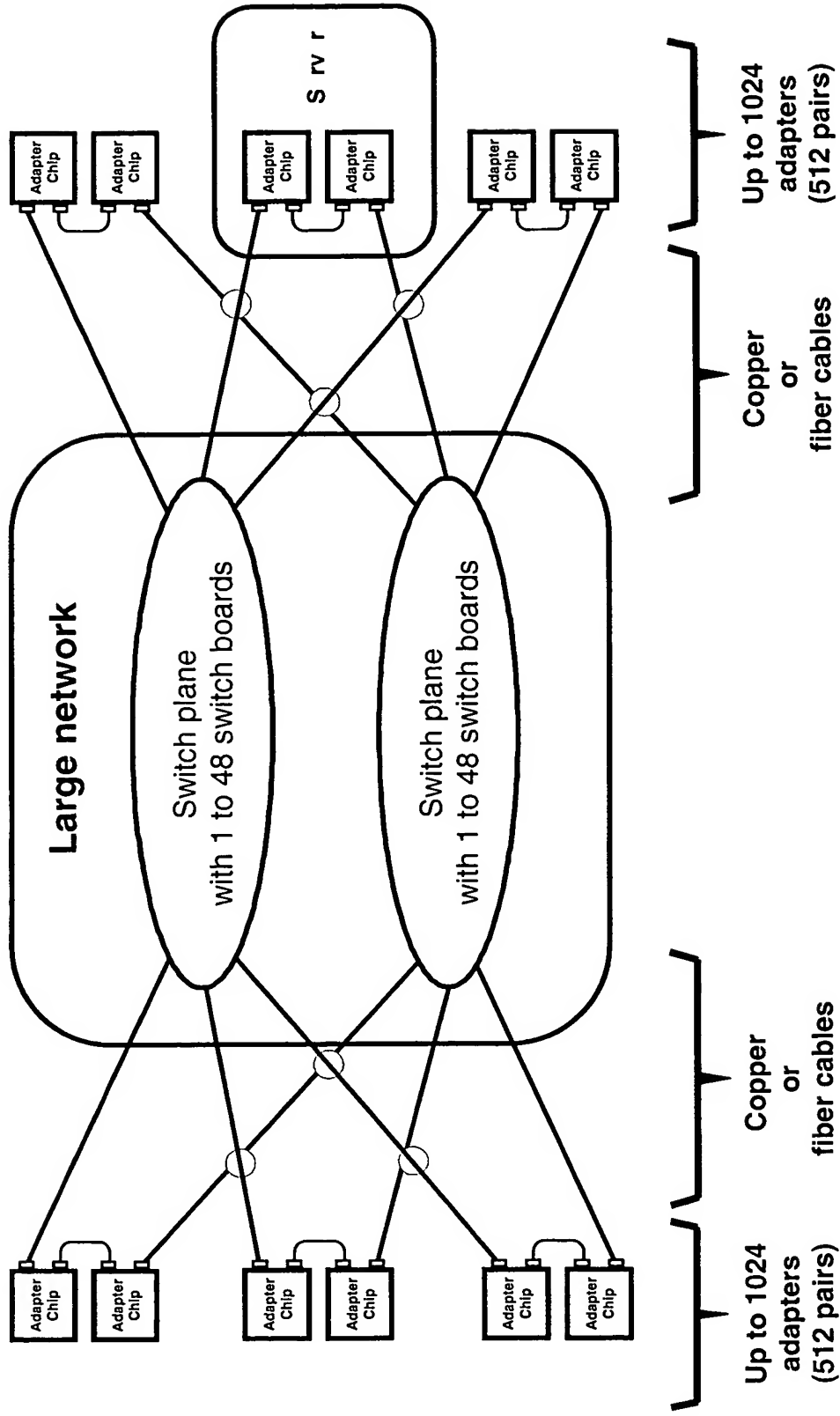


Figure 7

8/50

Programming Interface

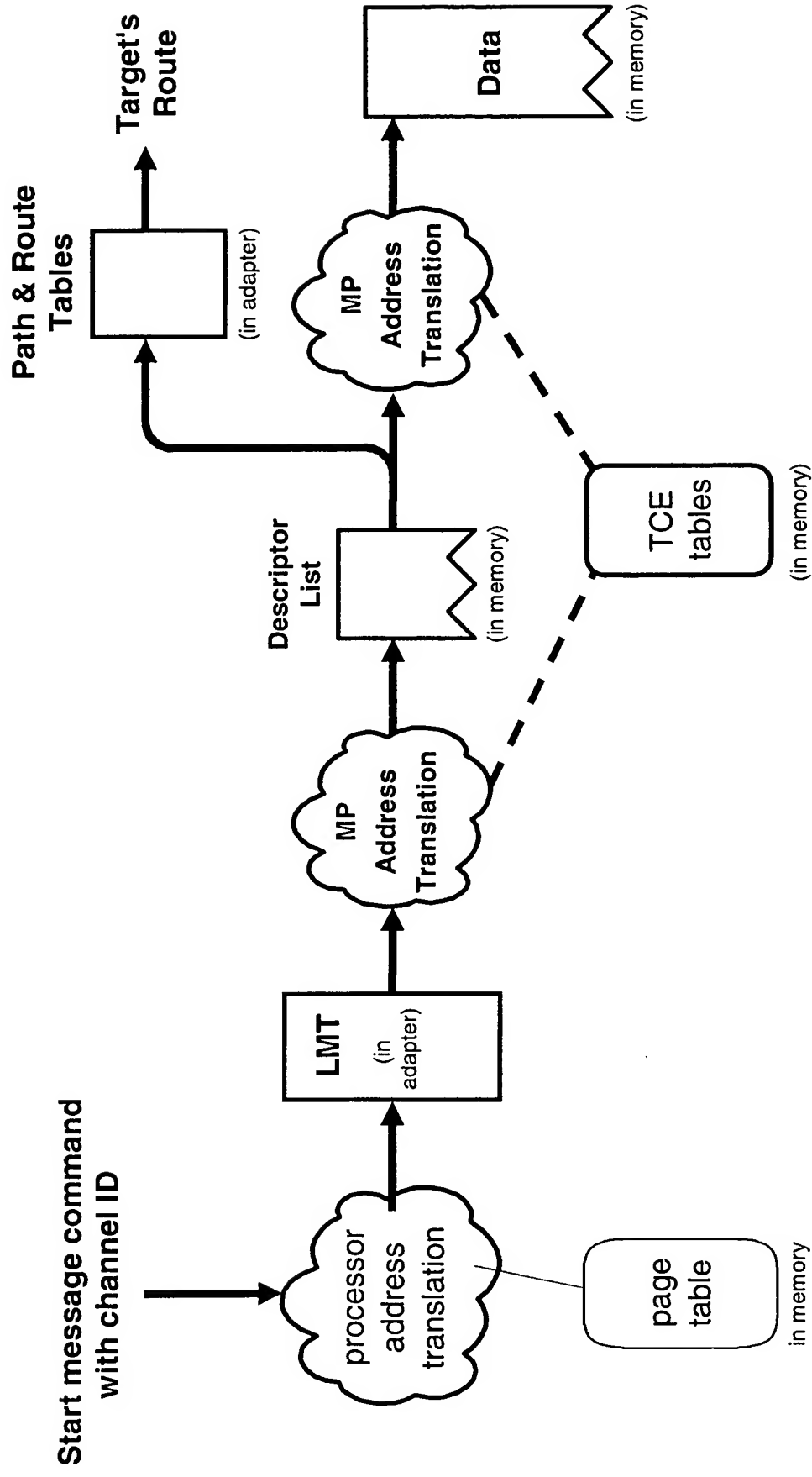


Figure 8

9/50

Address Translation

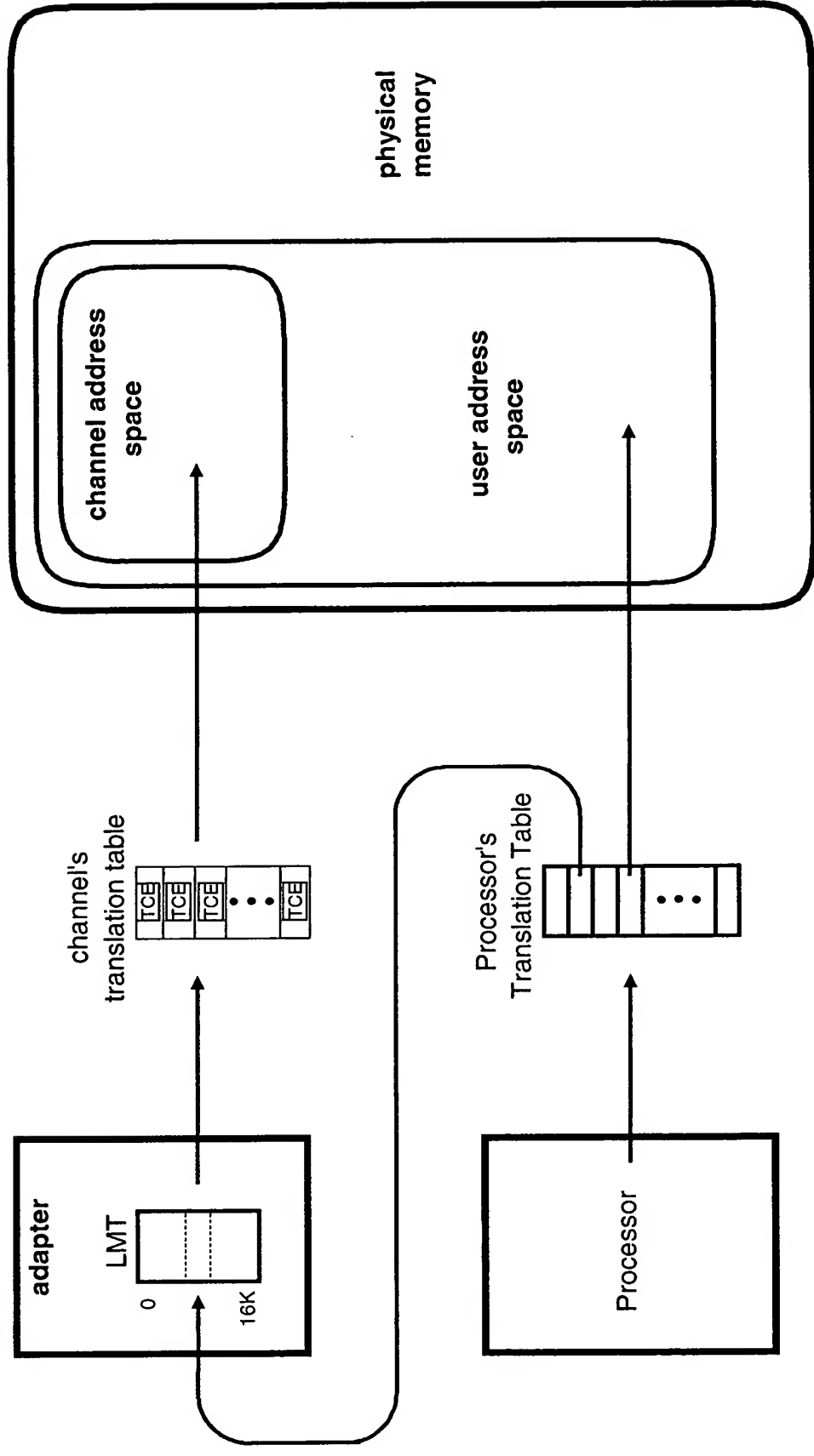


Figure 9

Pm 920030203451 10/50

Address Translation with 4K pages

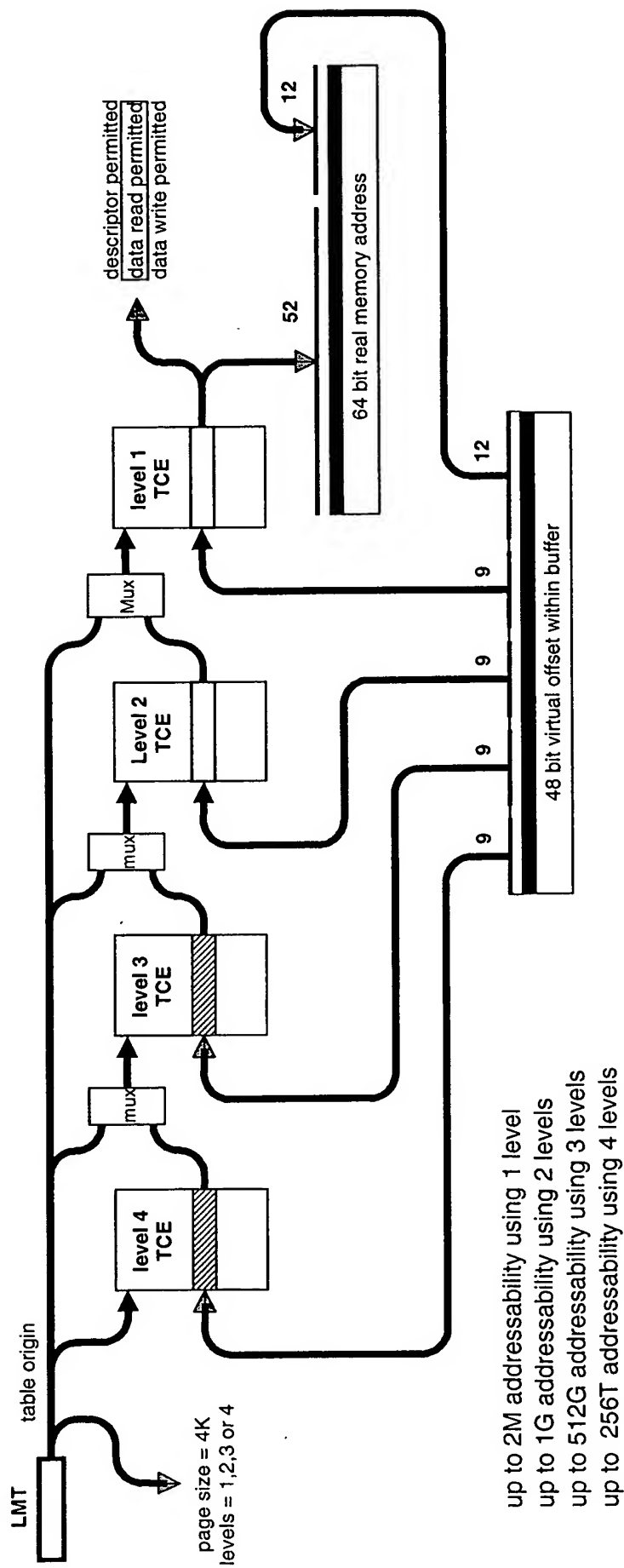


Figure 10

11/50

Address Translation with 16M pages

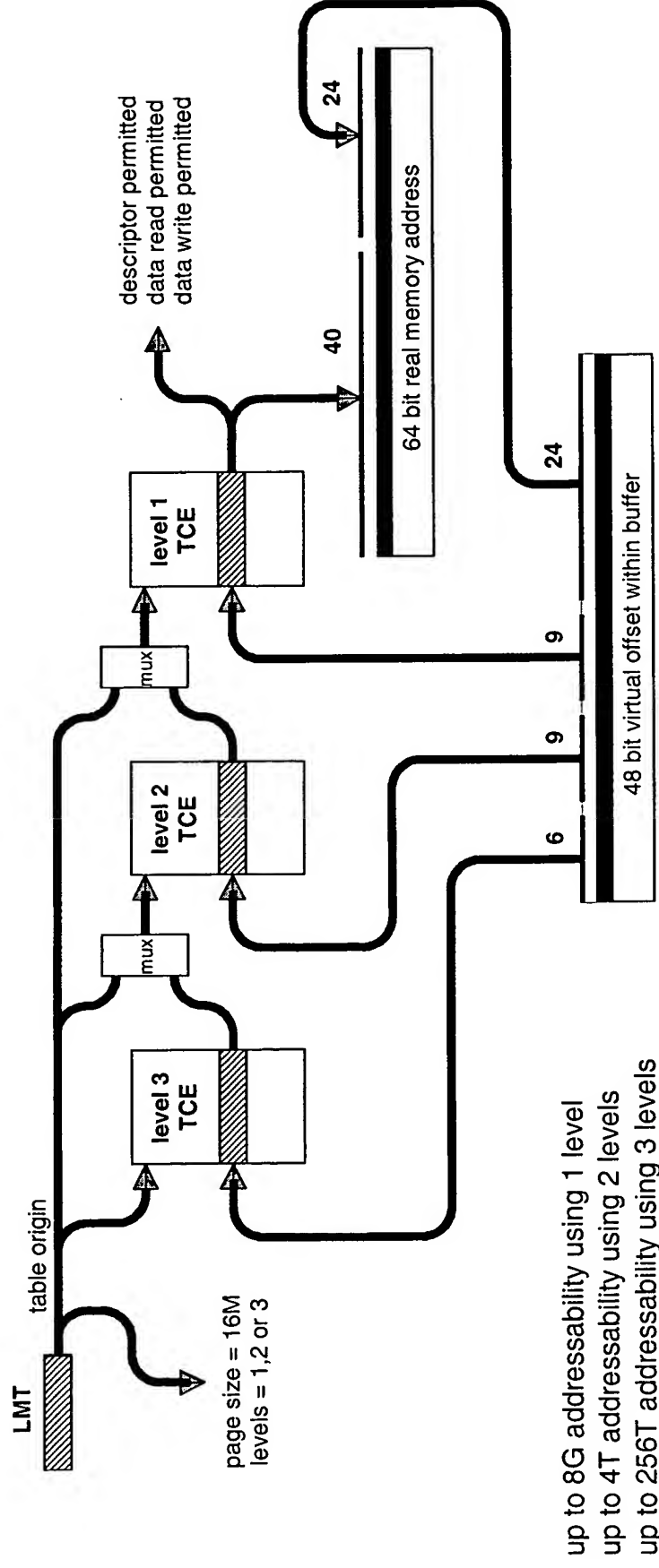


Figure 11

12/50

Adapter Identification

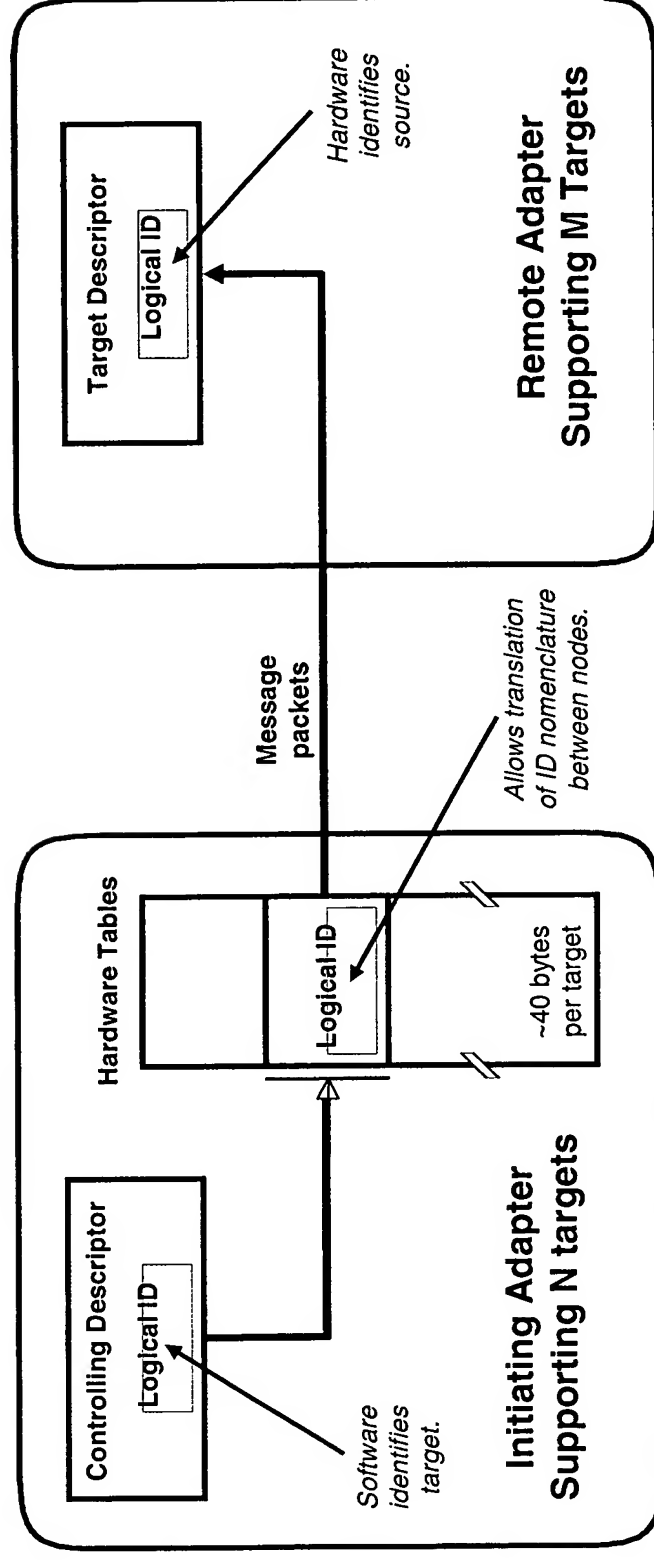


Figure 12

13/50

Broadcast Function

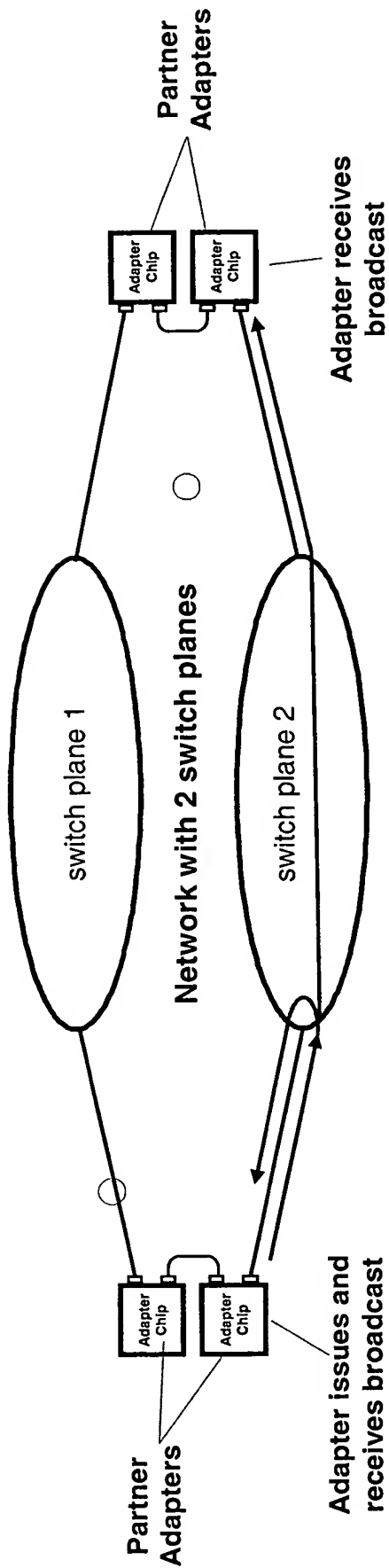


Figure 13

14/50

Processor Interrupts

Channel Interrupt Generation

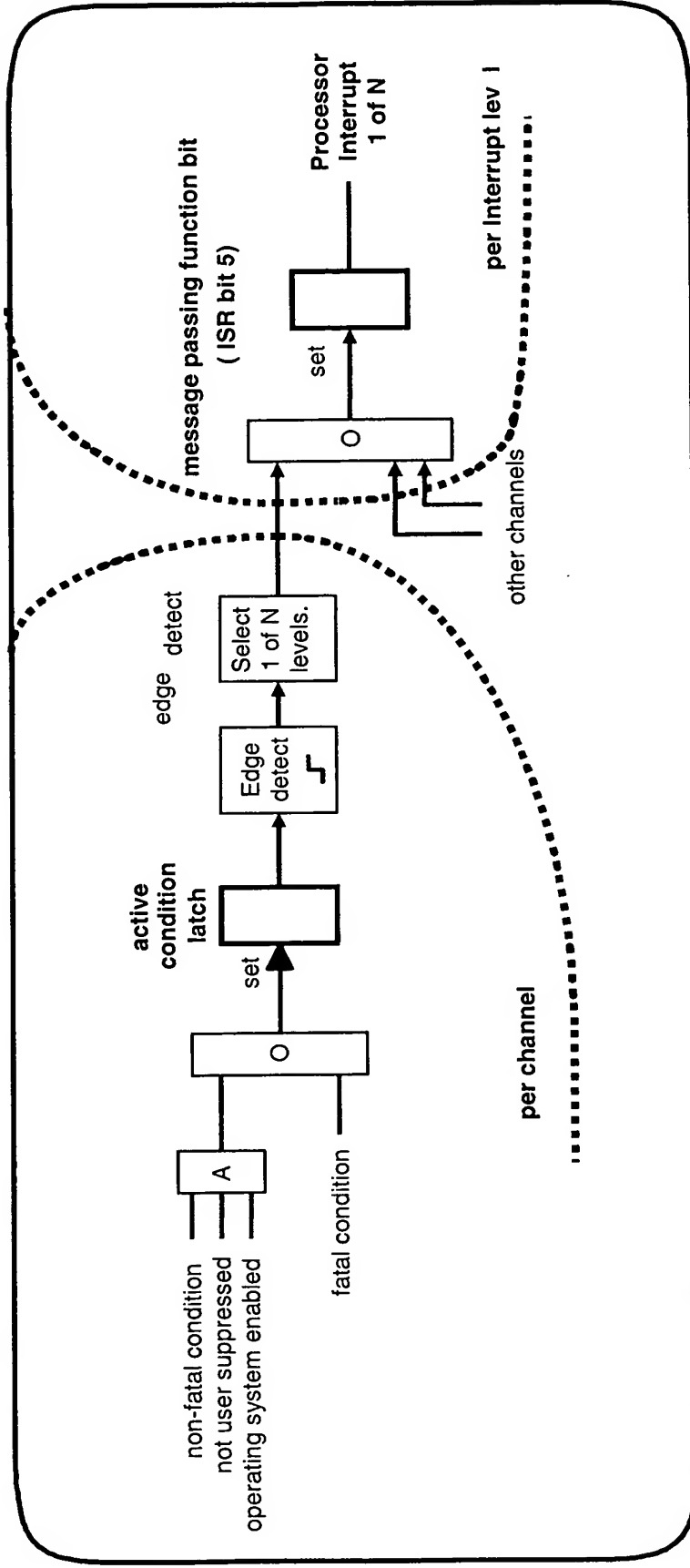


Figure 14

15/50

Defined Address Fields

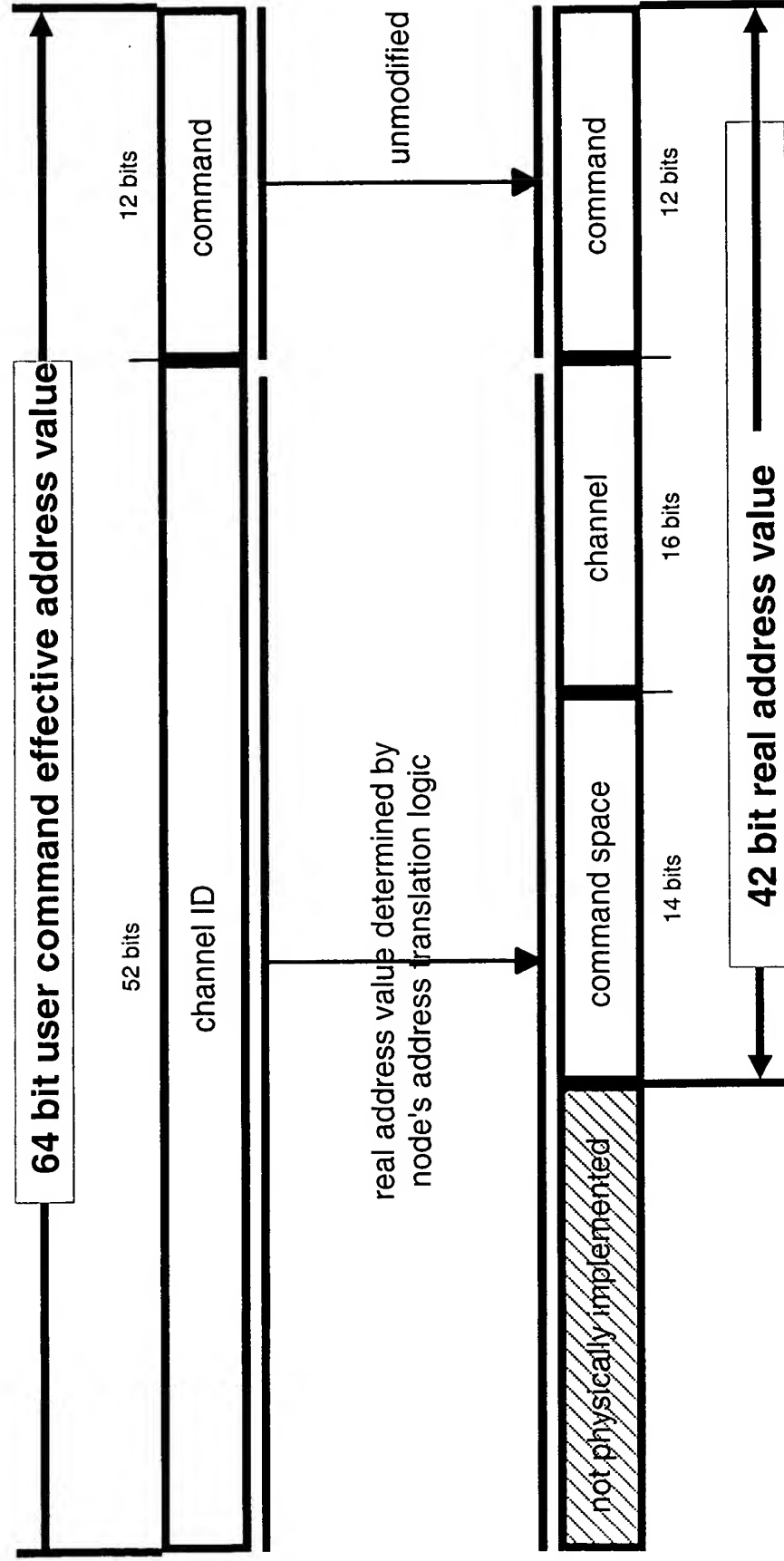


Figure 15

16/50

Channel States

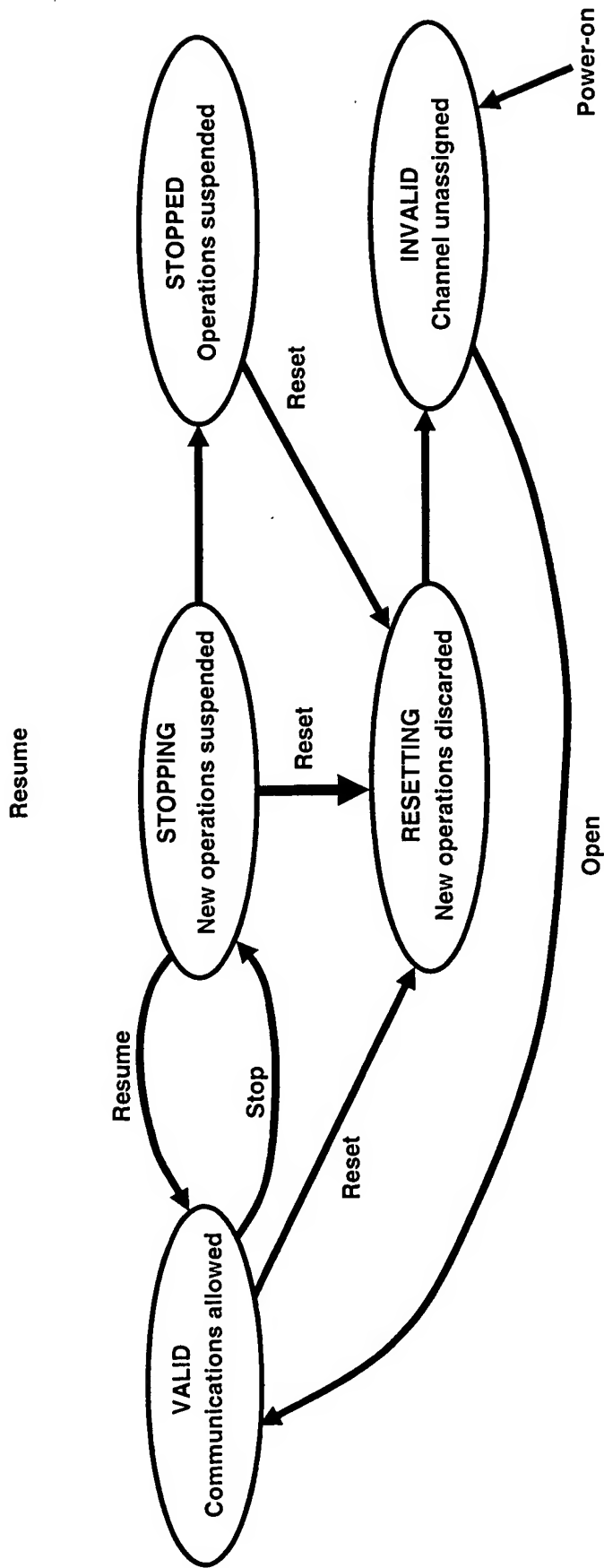


Figure 16

17/50

Local Mapping Table (LMT) Entries

| | byte 0 | byte 1 | byte 2 | byte 3 | byte 4 | byte 5 | byte 6 | byte 7 |
|----|--------------------------|--------|----------------|-------------------|--------|-----------|--------|----------|
| 0 | translation table origin | | | | | | | reserved |
| 1 | reserved | | maximum offset | | | | | |
| 2 | user key | | | linked channel | | mode bits | | |
| 3 | reserved | | DS | descriptor offset | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| | reserved | | | | | | | |
| 30 | | | | | | | | |
| 31 | channel status | | | reserved | | | | |

Figure 17

18/50

Translation Control Elements

TCE format

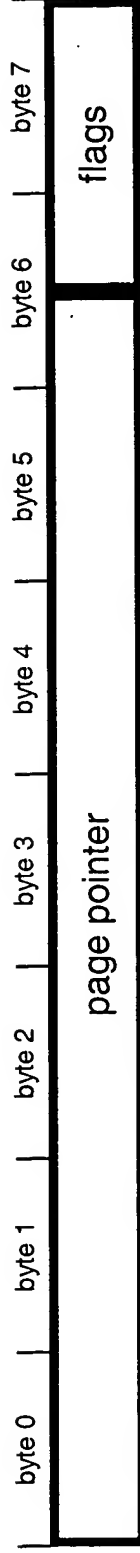


Figure 18

19/52

Remote Write

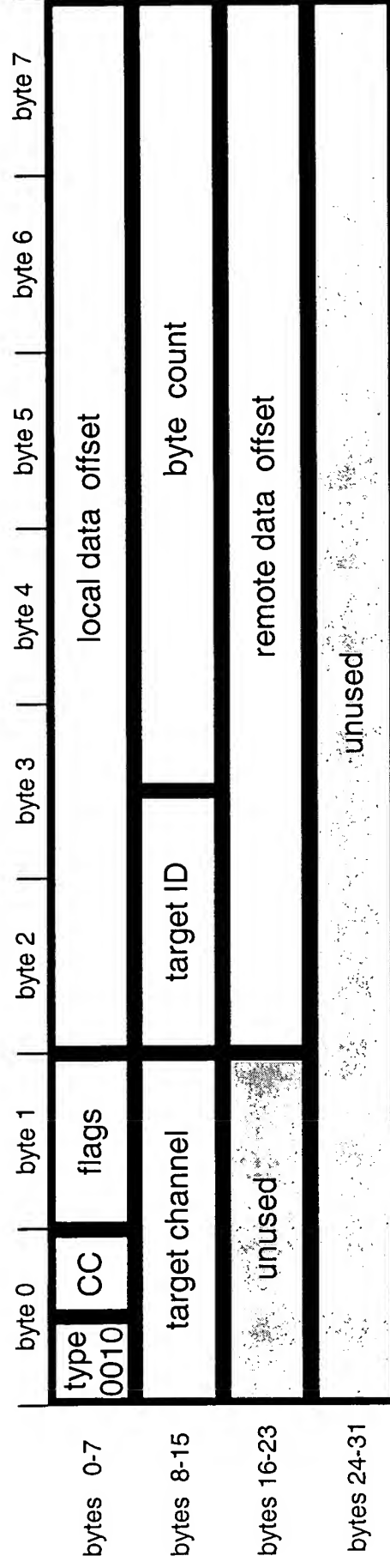


Figure 19

20/50

Remote Read

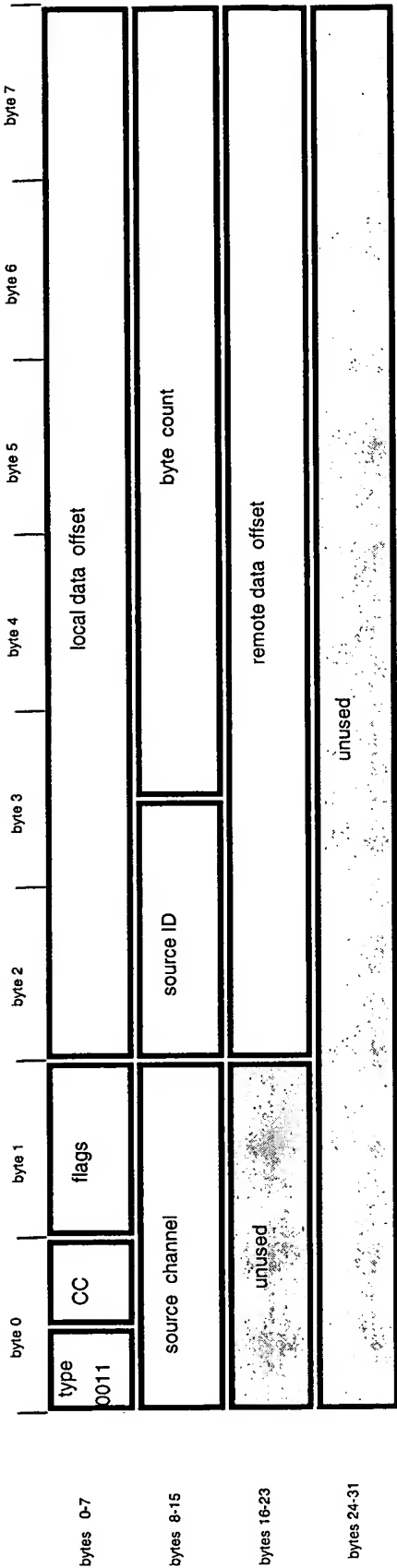


Figure 20

21/50

Source of Push

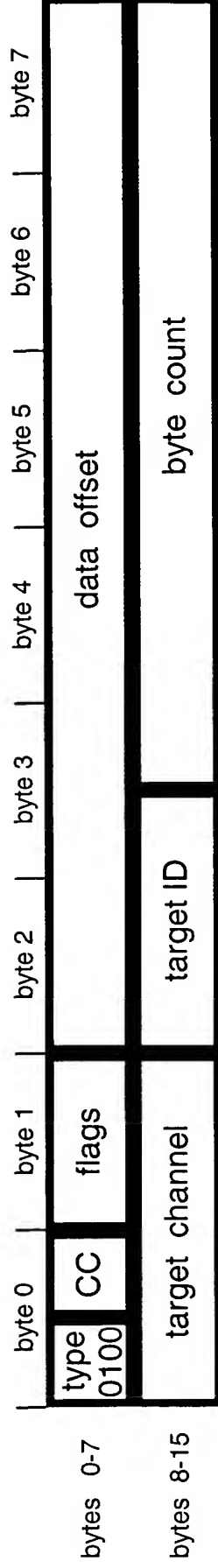


Figure 21

22/50

Target of push

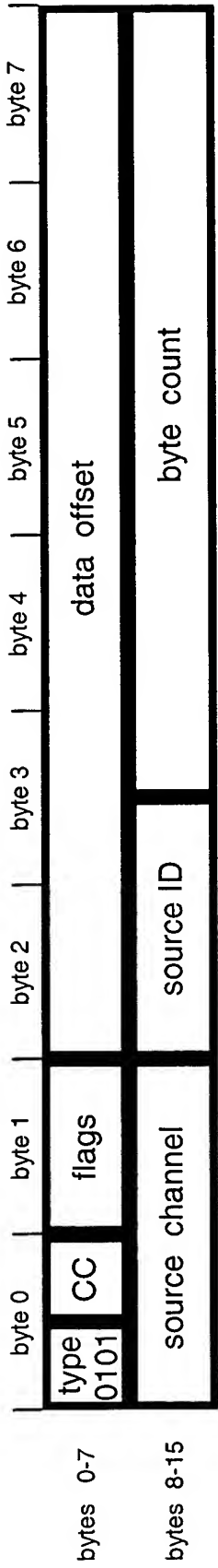


Figure 22

23/50

Source of Pull

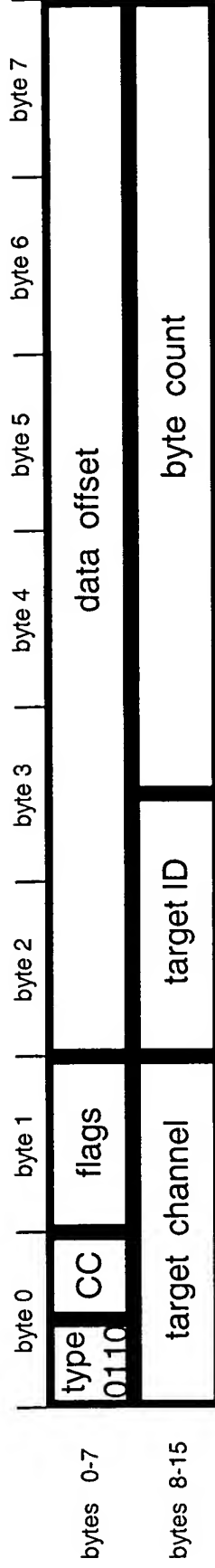


Figure 23

24/50

Target of pull

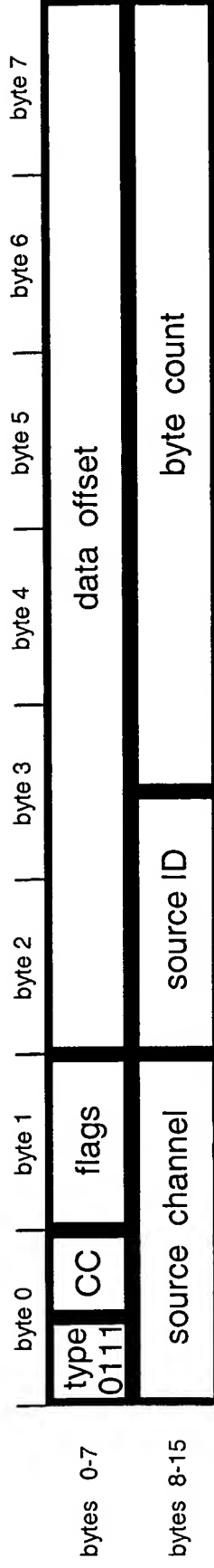


Figure 24

25/52

Preload data

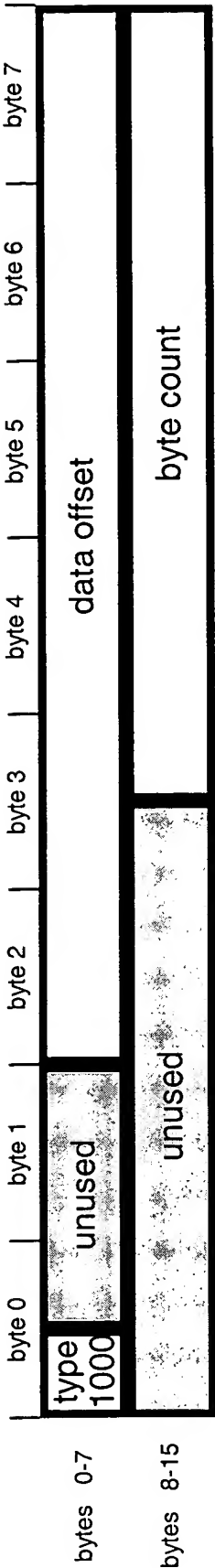


Figure 25

26/50

Branch

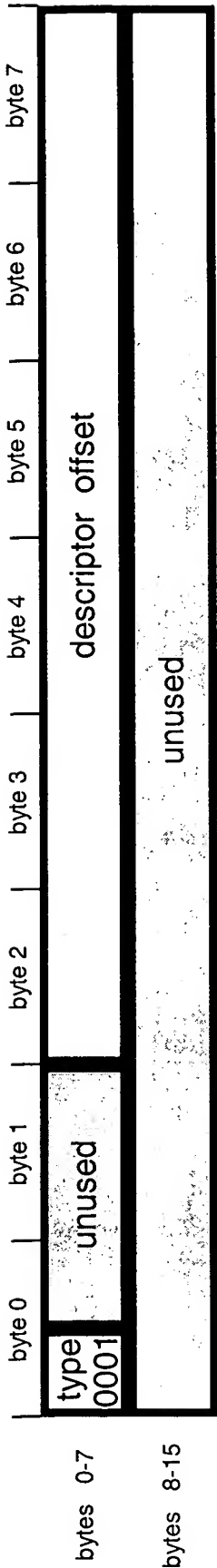


Figure 26

27/50

Path Table Entry



Figure 27

28/50

Route Table Entry

| | byte 0 | byte 1 | byte 2 | byte 3 | byte 4 | byte 5 | byte 6 | byte 7 |
|--------|--------|--------|--------|---------------|--------|--------|--------|--------|
| path 0 | 0000 | | | route nibbles | | | | port |
| path 1 | 0000 | | | route nibbles | | | | port |
| path 2 | 0000 | | | route nibbles | | | | port |
| path 3 | 0000 | | | route nibbles | | | | port |

Figure 28

29/50

Broadcast Registers

| | byte 0 | byte 1 | byte 2 |
|------------|--------------------|--------|--------|
| register 0 | lookup table index | port | |
| register 1 | lookup table index | port | |
| register 2 | lookup table index | port | |
| register 3 | lookup table index | port | |

Figure 29

30/50

Sequence Table Entry

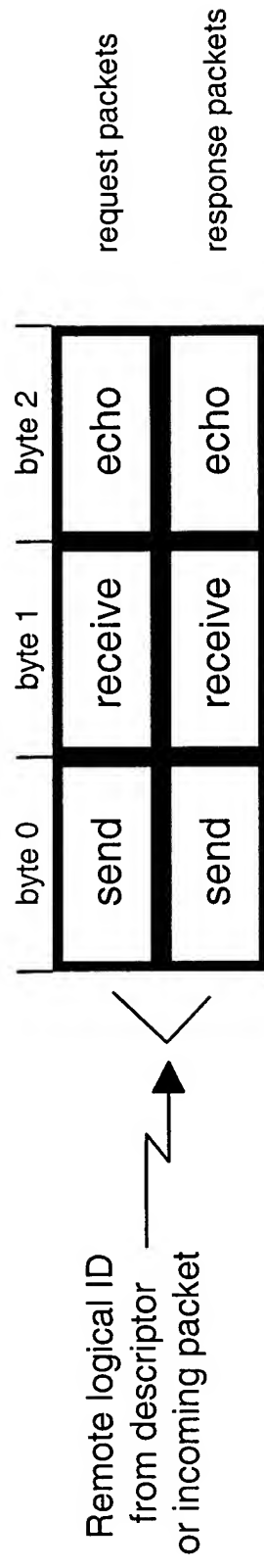


Figure 30

31/50

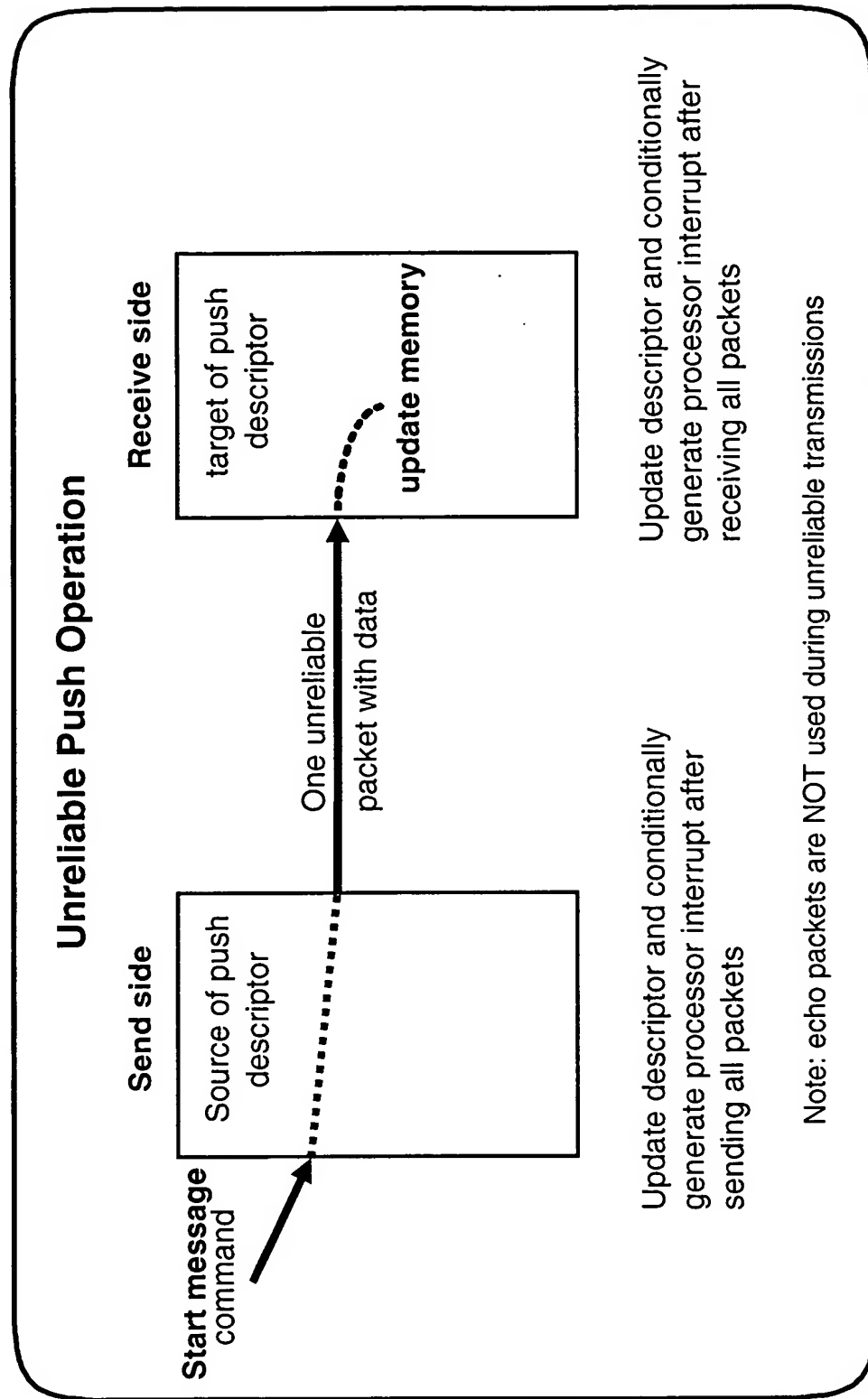


Figure 31

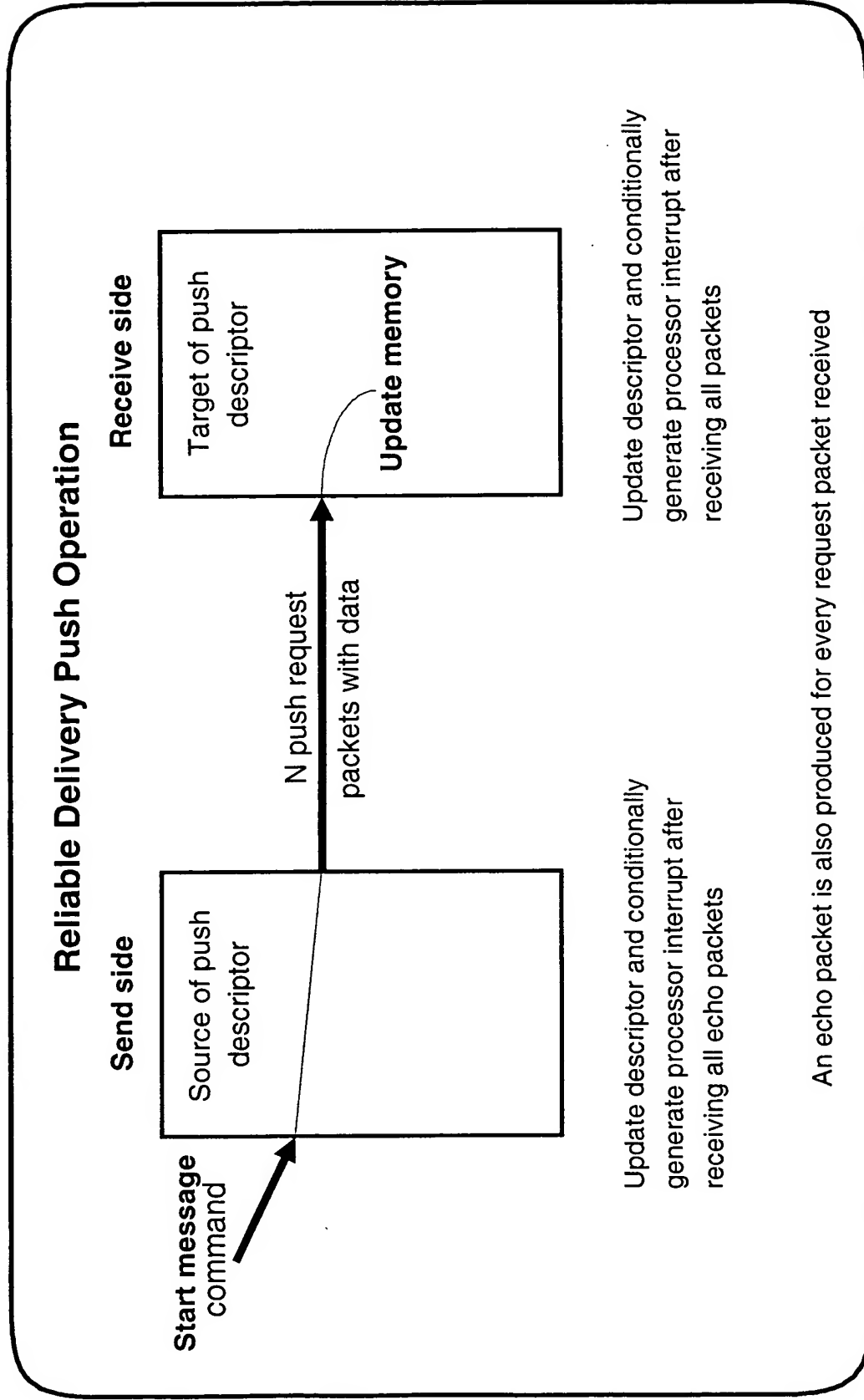
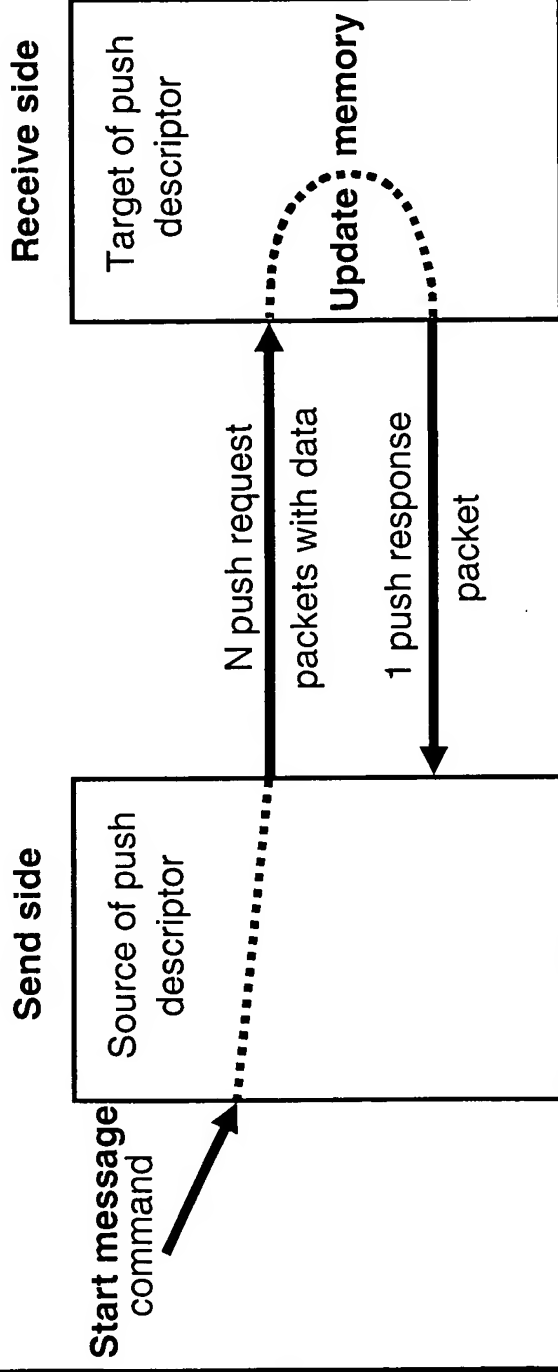


Figure 32

Reliable Acceptance Push Operation



Update descriptor and conditionally generate processor interrupt after receiving response packet

Update descriptor and conditionally generate processor interrupt when sending response packet

An echo packet is also produced for every request or response packet received.

Figure 33

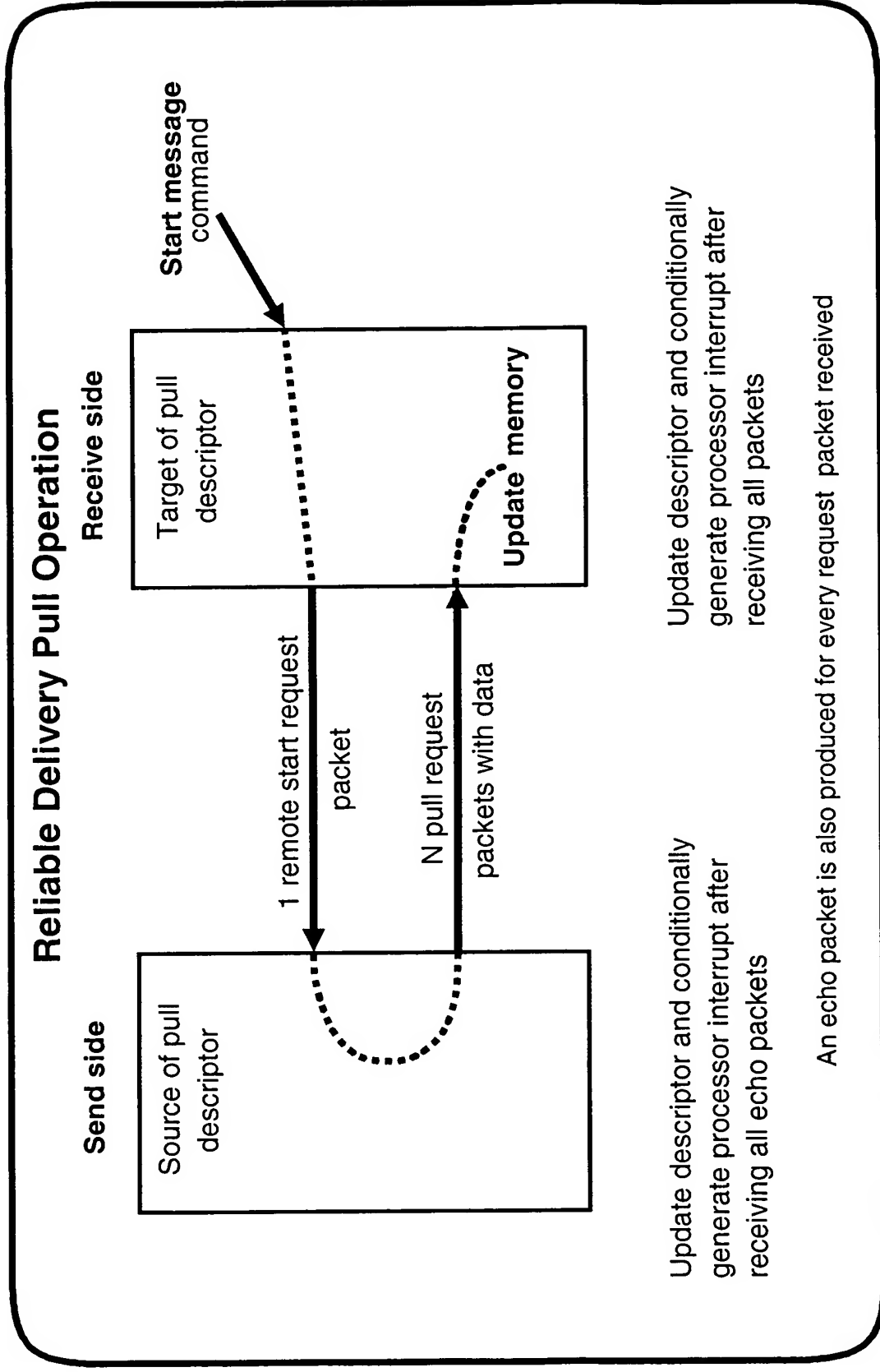


Figure 34

Reliable Acceptance Pull Operation

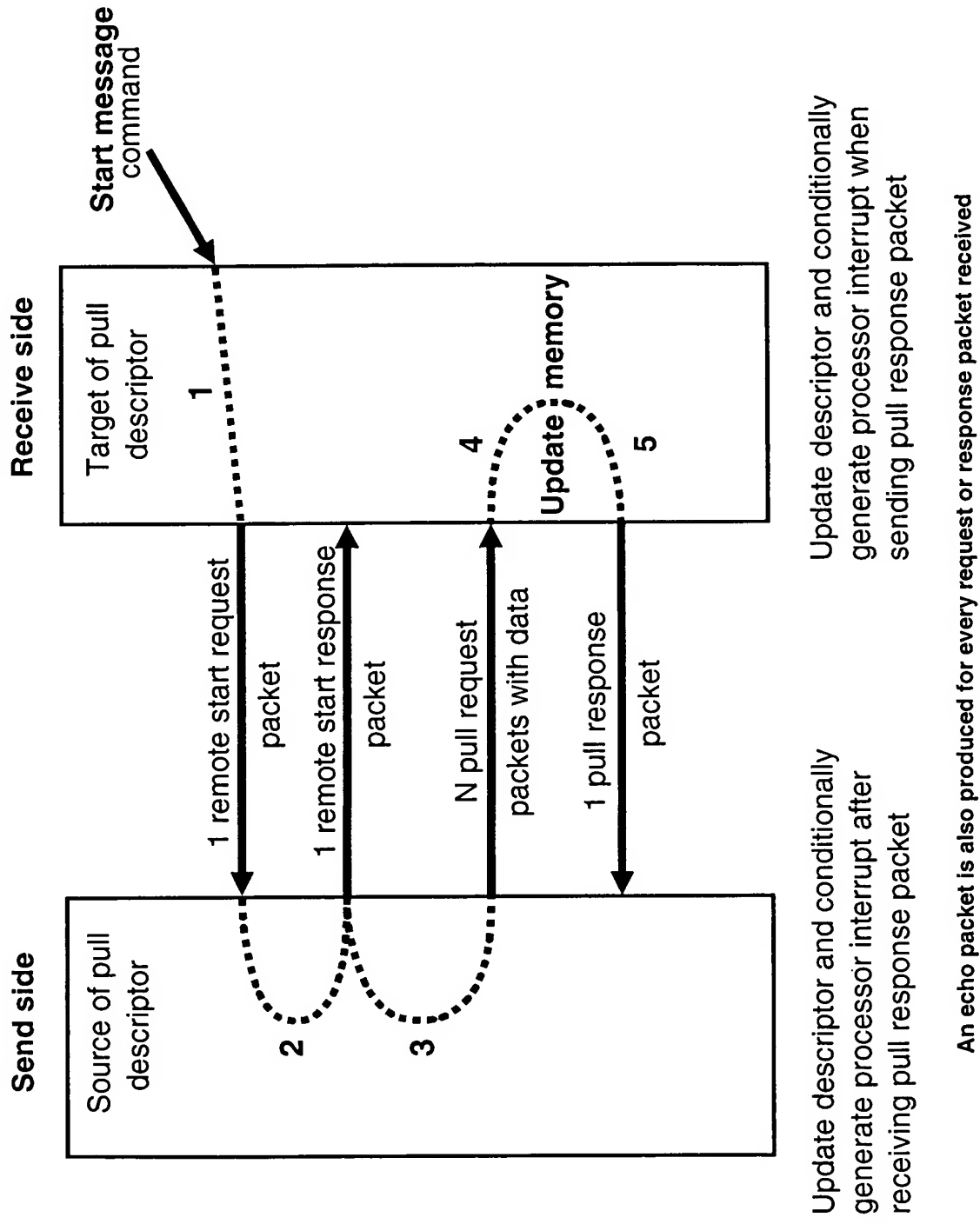


Figure 35

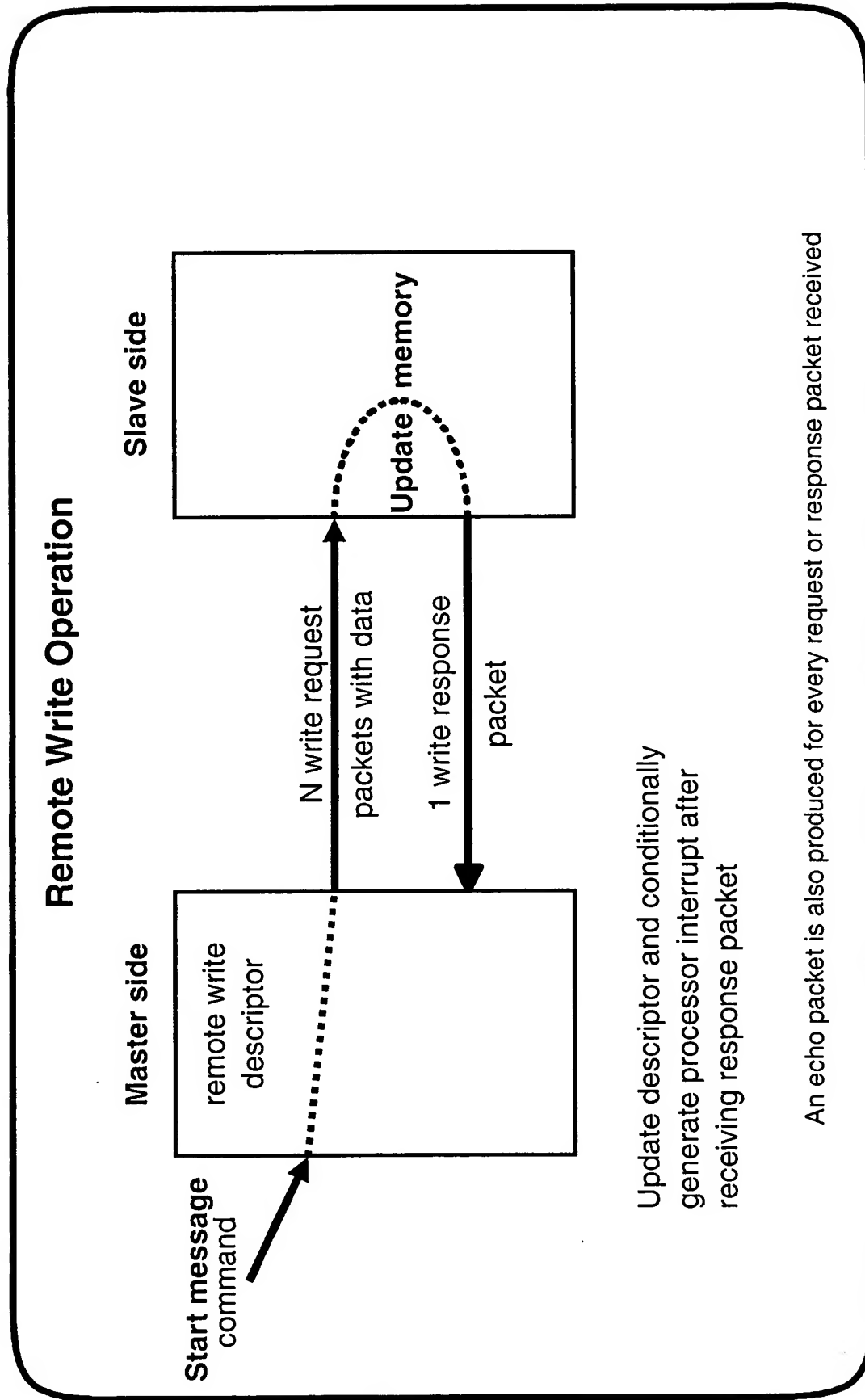


Figure 36

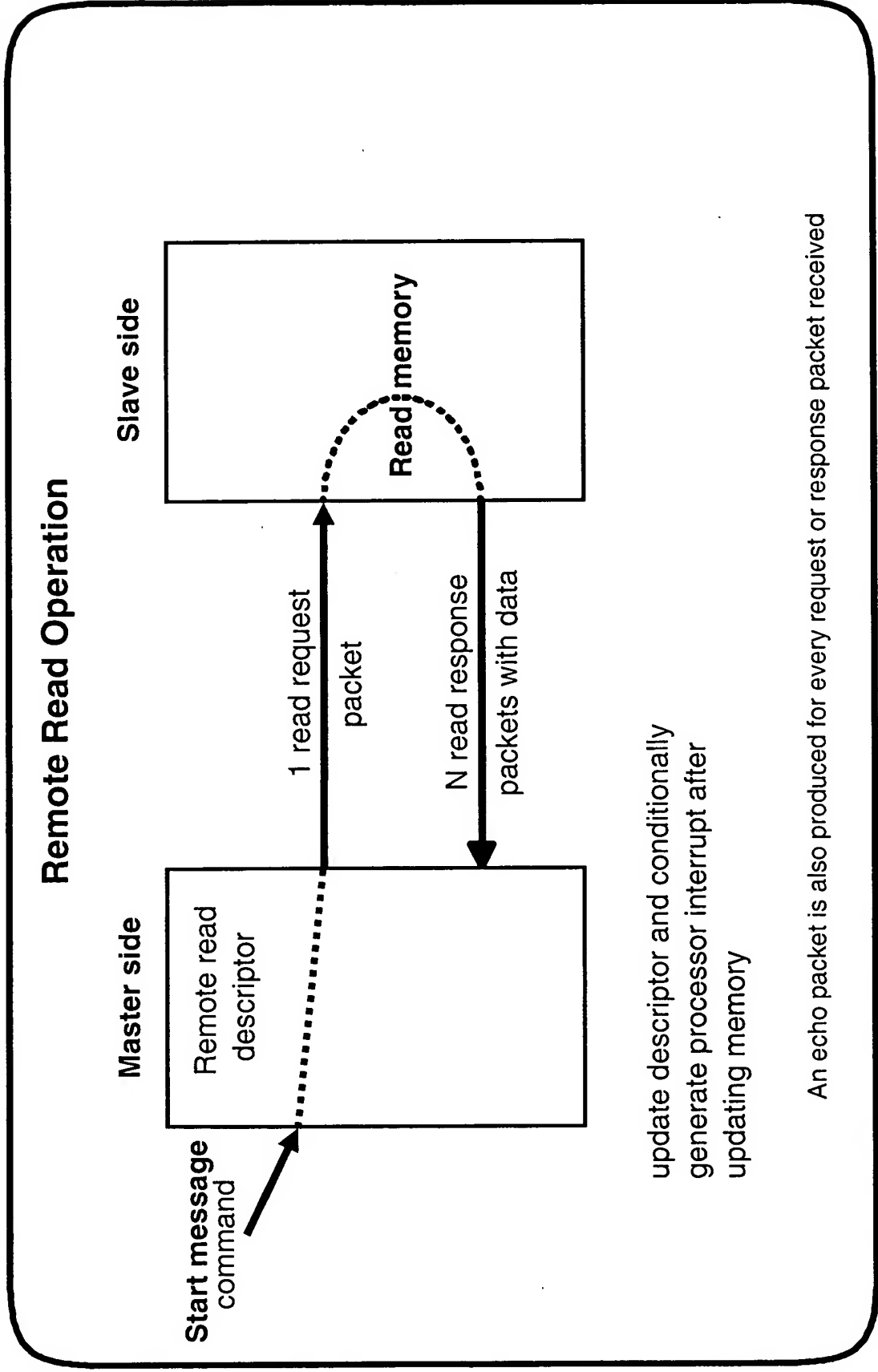


Figure 37

38/50

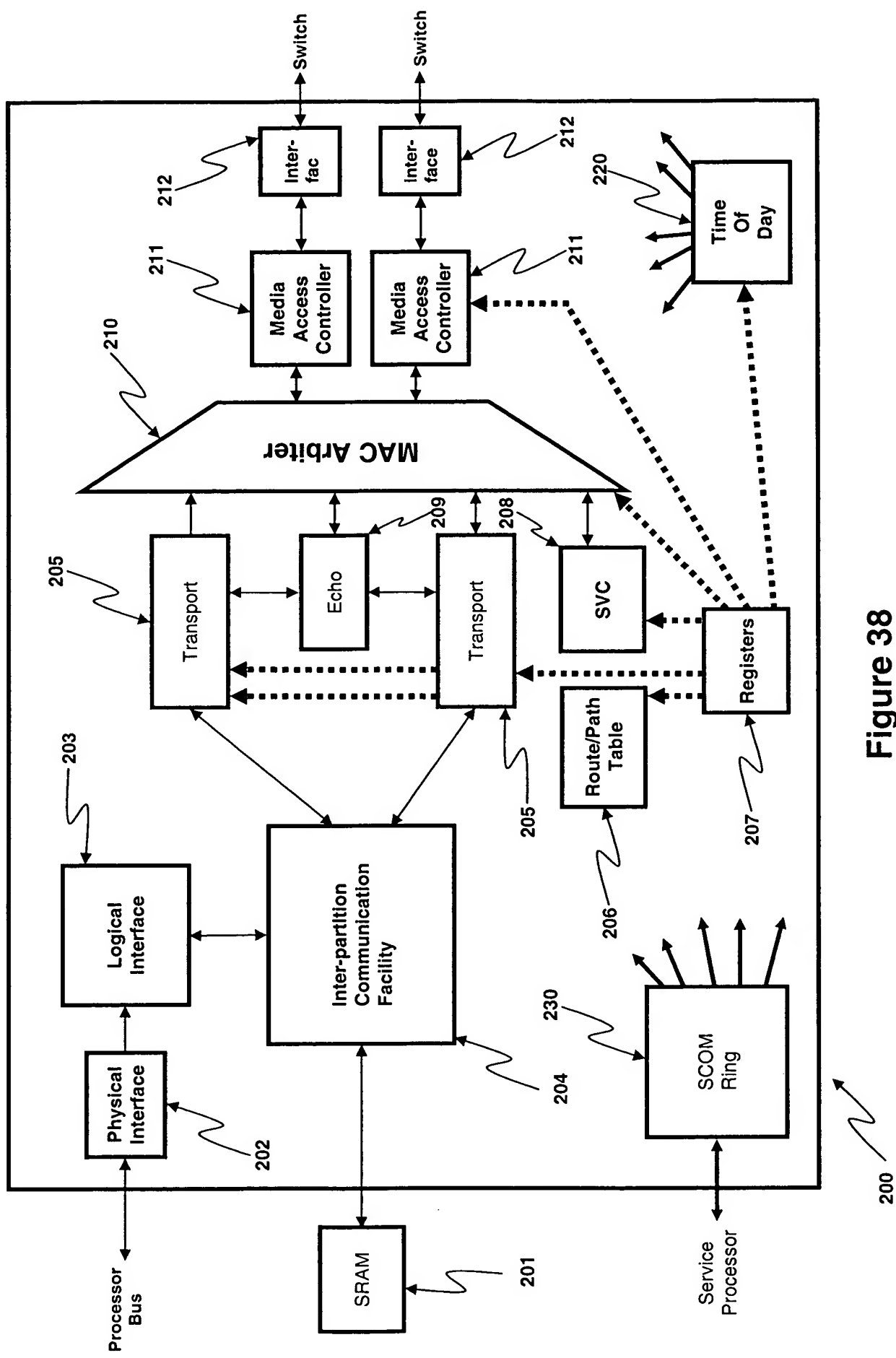


Figure 38

39/50

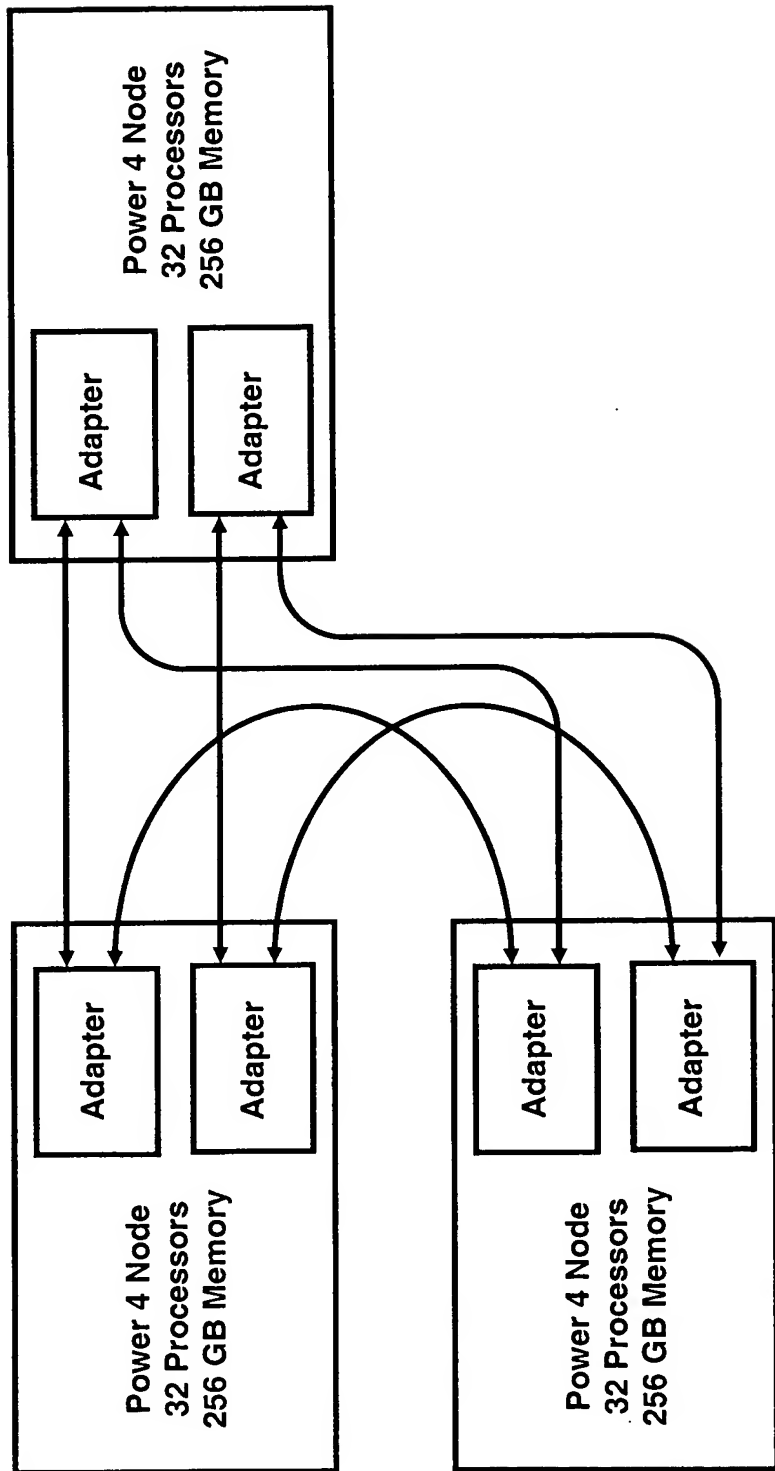


Figure 39

40/52

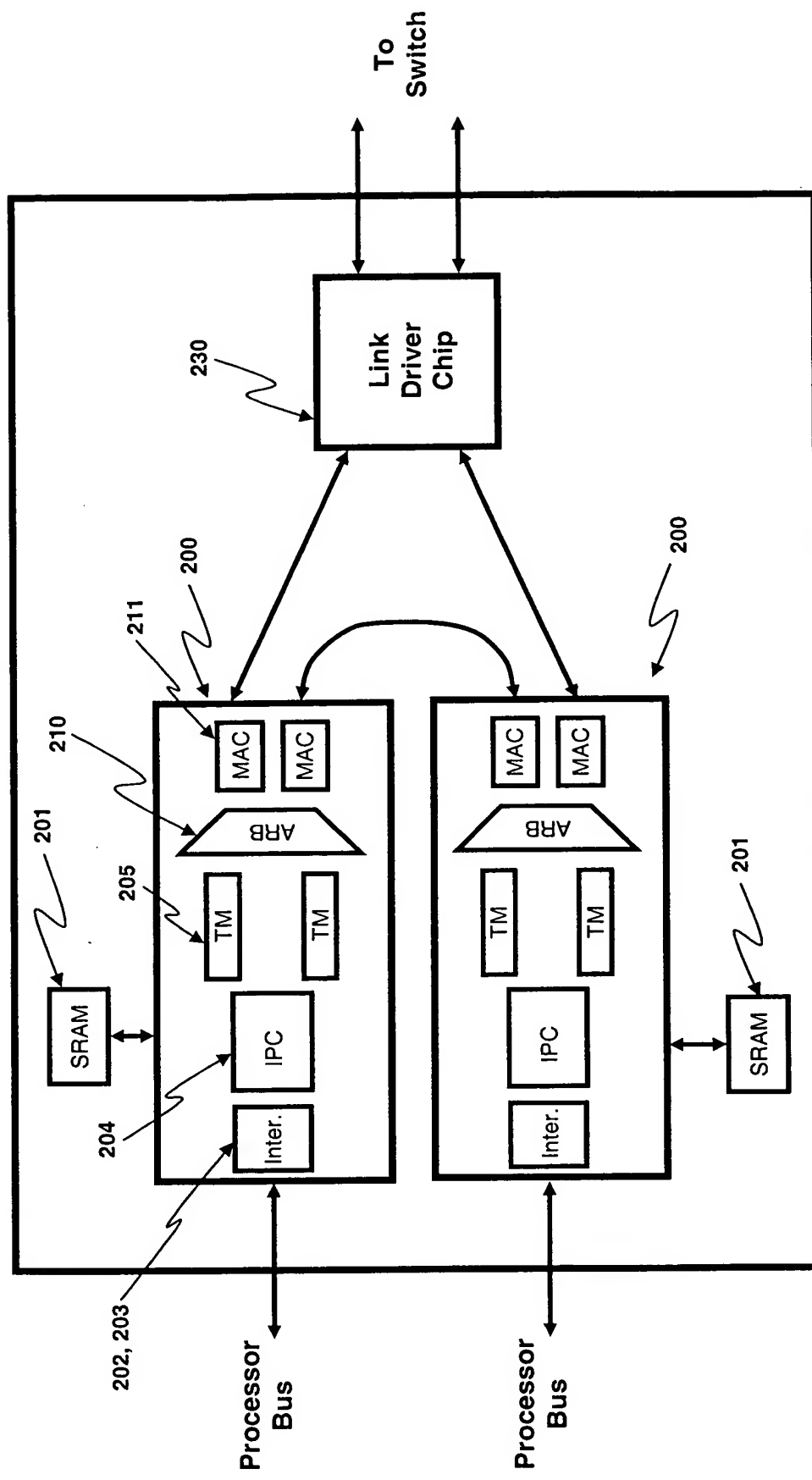


Figure 40

41/50

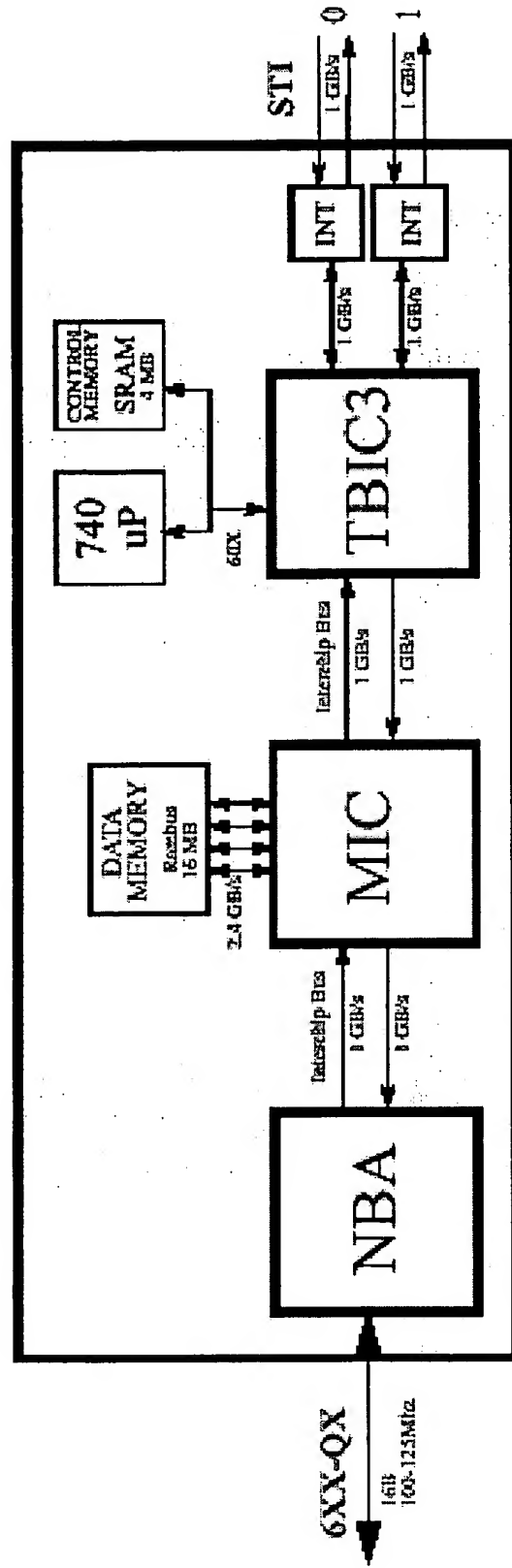
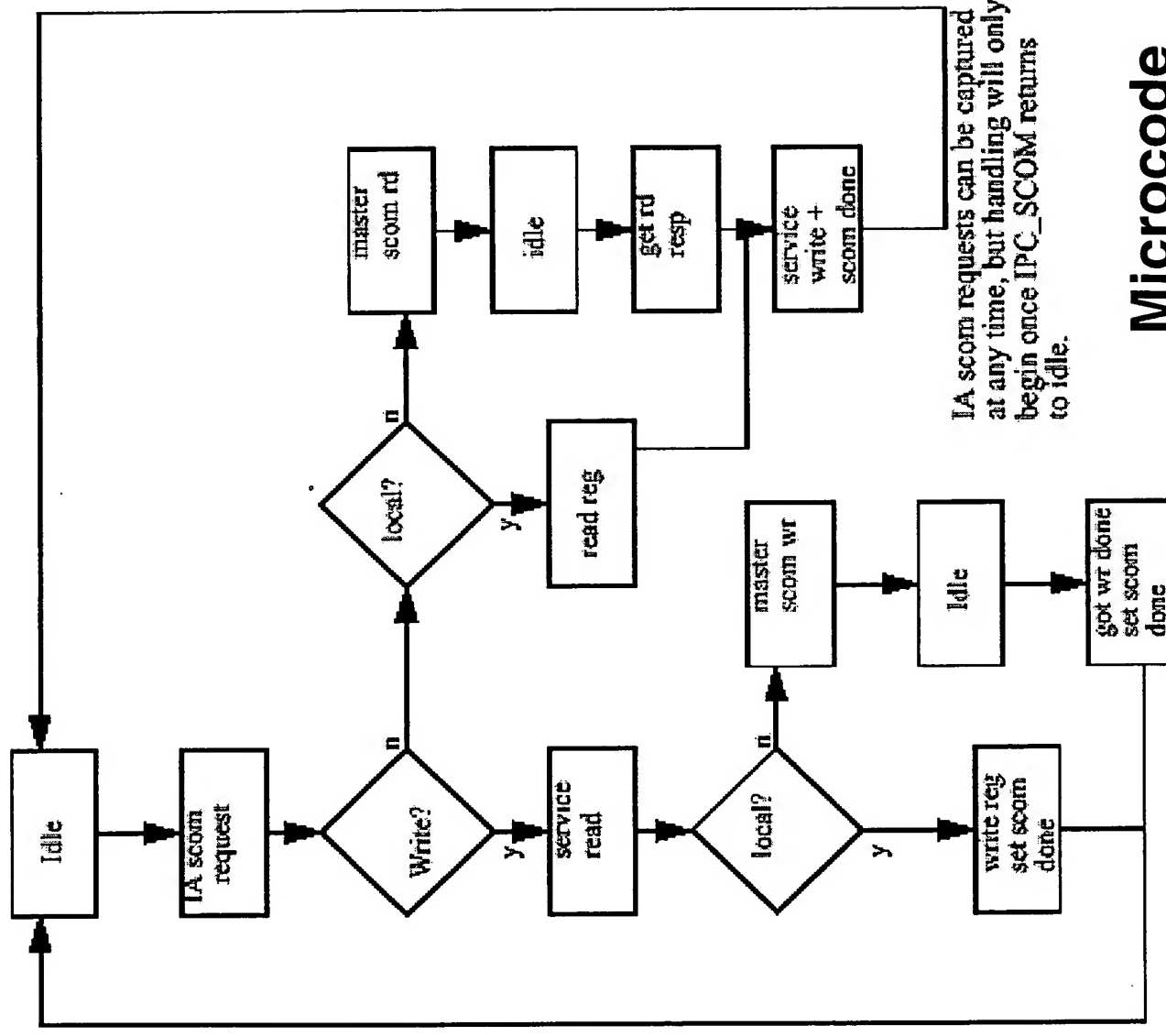


FIGURE 10. Colony Adapter

From page 32 of the spec – inclusion speculative

Figure 41

42/50



IA scom requests can be captured at any time, but handling will only begin once IPC_SCOM returns to idle.

Microcode

Figure 42

AUTO TRACKING OF BAD PATHS

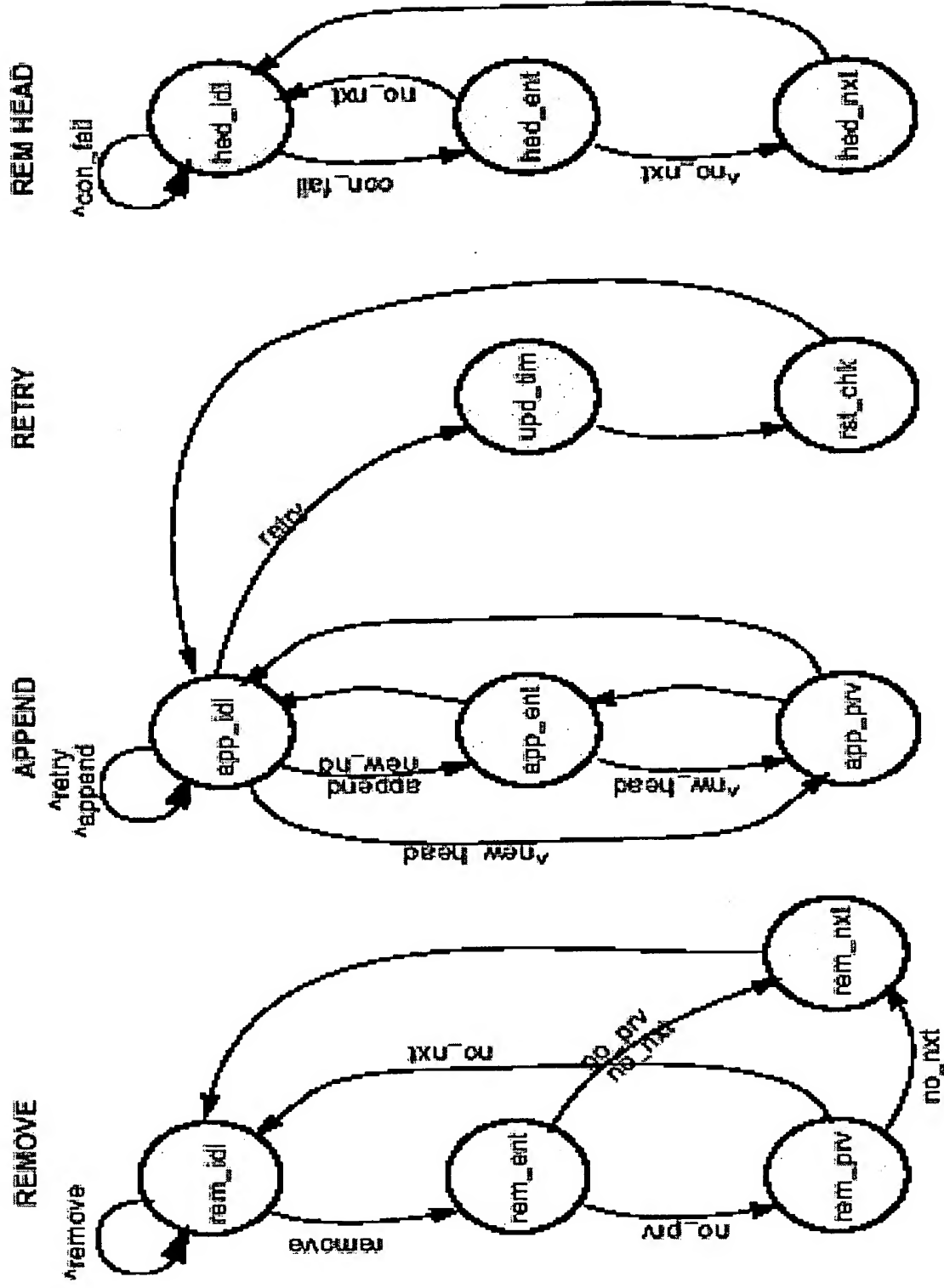


Figure 43

44/50

Formatter

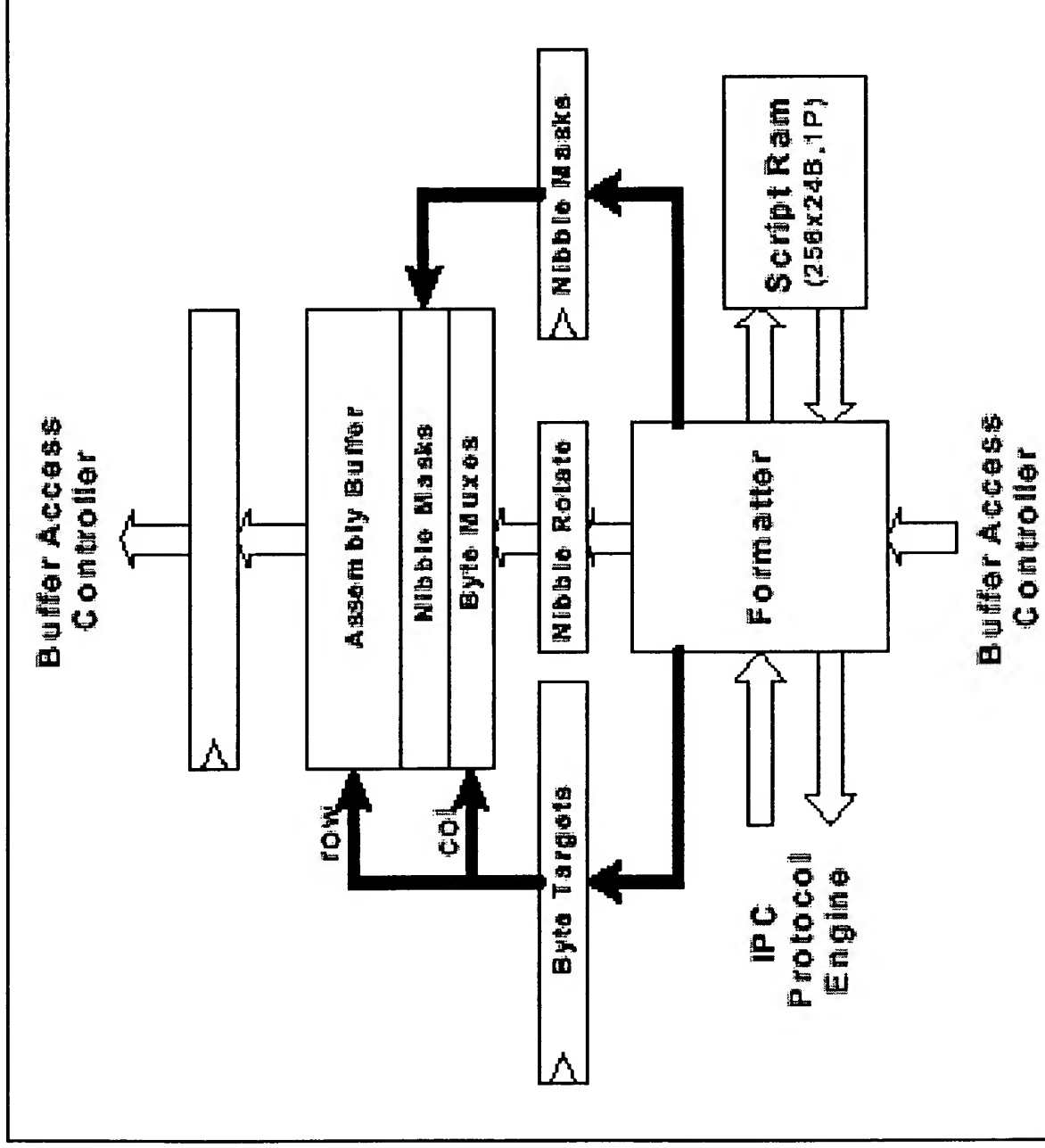
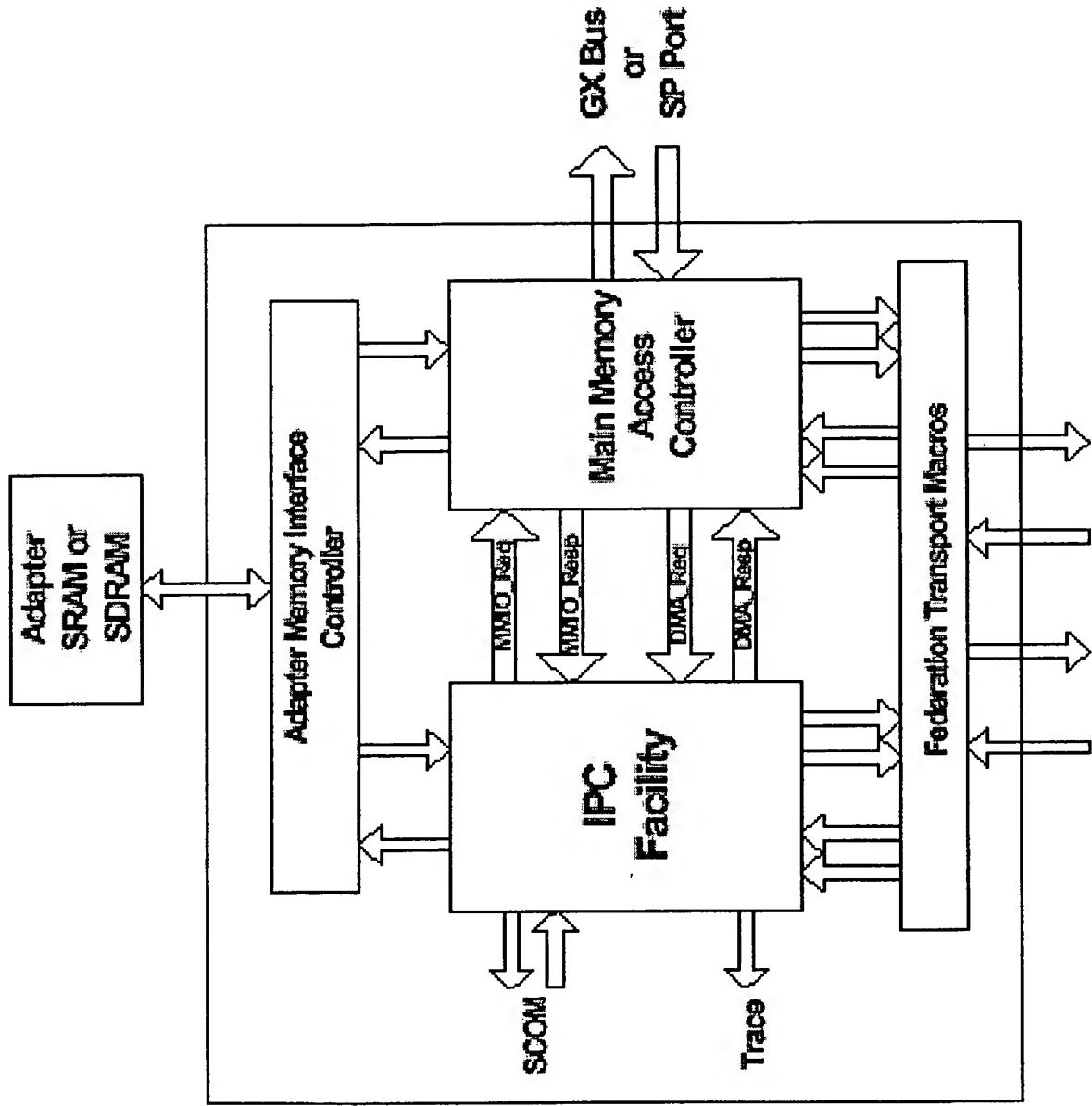


Figure 44

45/50



Federation Fabric

Figure 45

46/50

Section 18

Overhead Ring
(Main ID 1000)

Legend

- Overhead Ring
- Overhead Ring
- Overhead Ring
- Overhead Ring

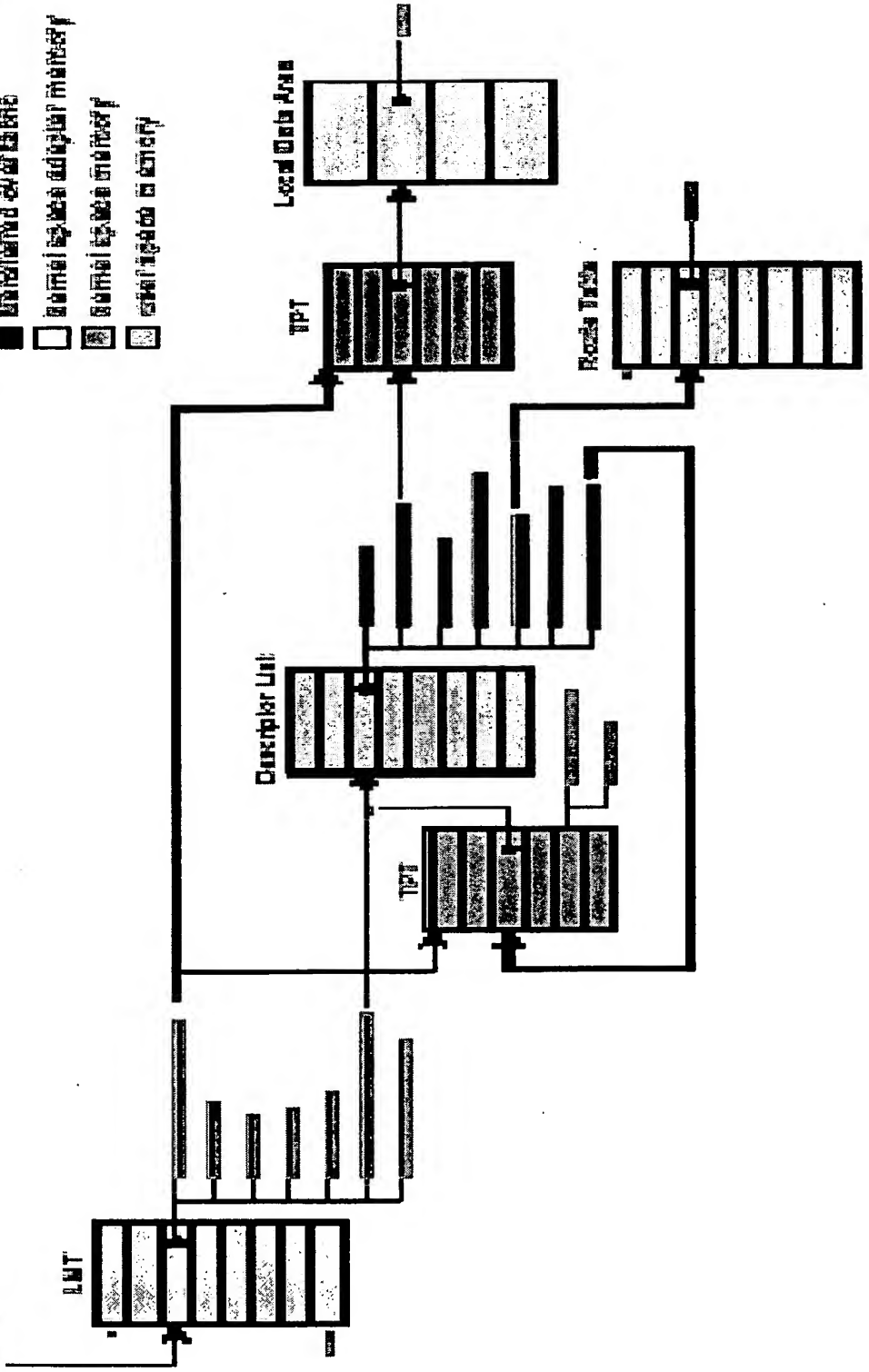


Figure 46

47/50

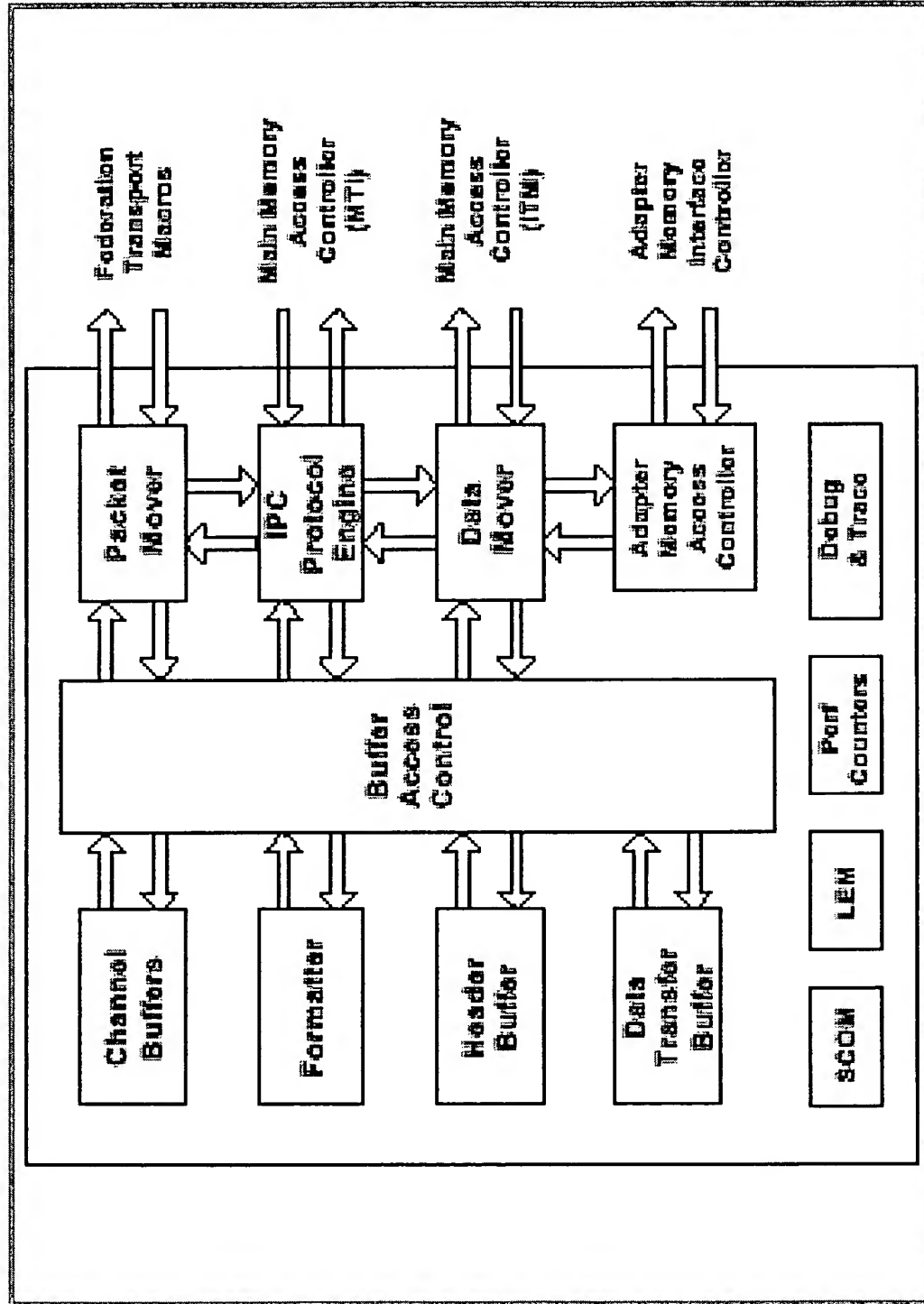
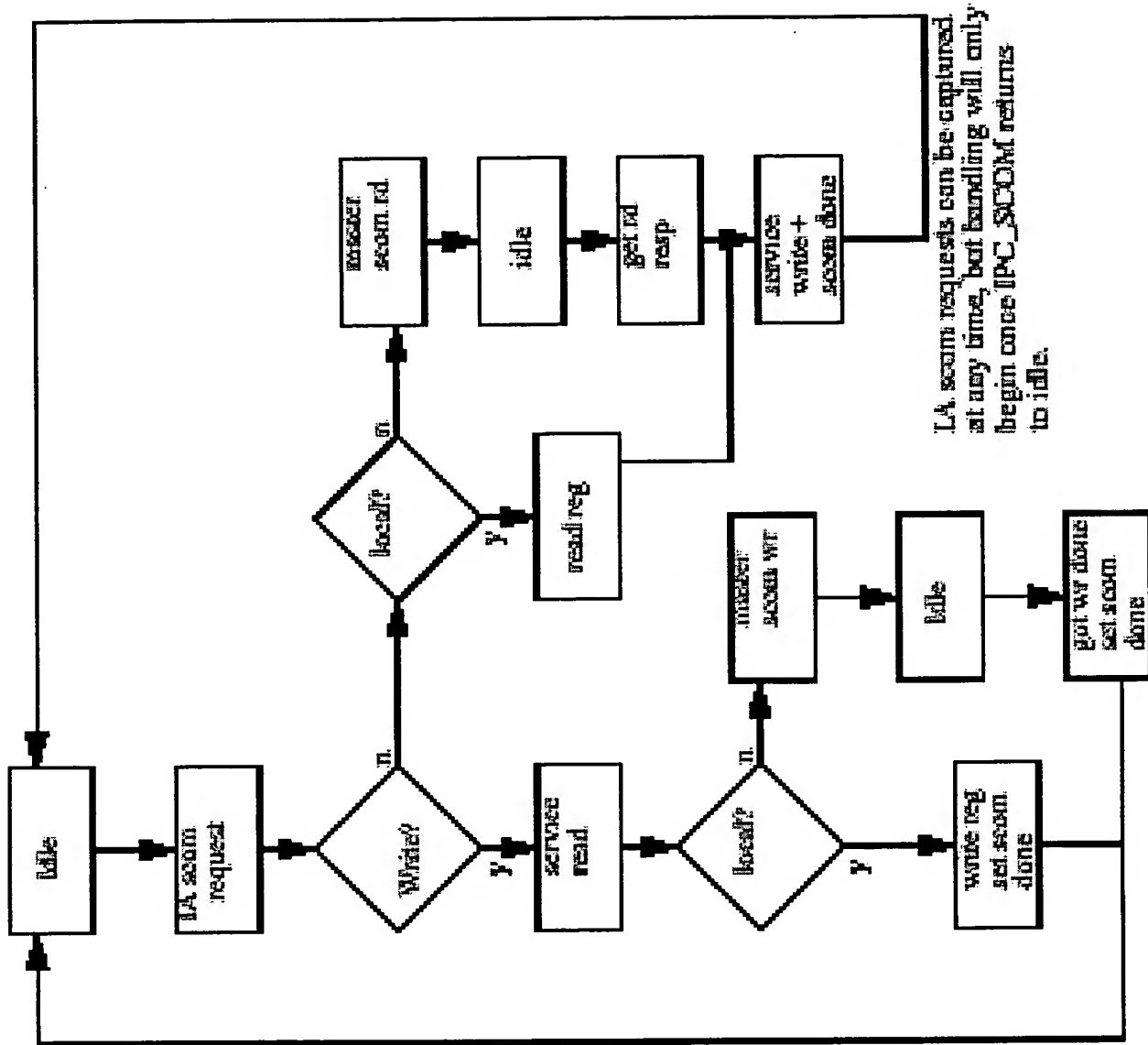


Figure 47

48/50
25/87



LA_SCOM requests can be captured at any time, but bundling will only begin once IPC_SCOM returns to idle.

Figure 48

49/50

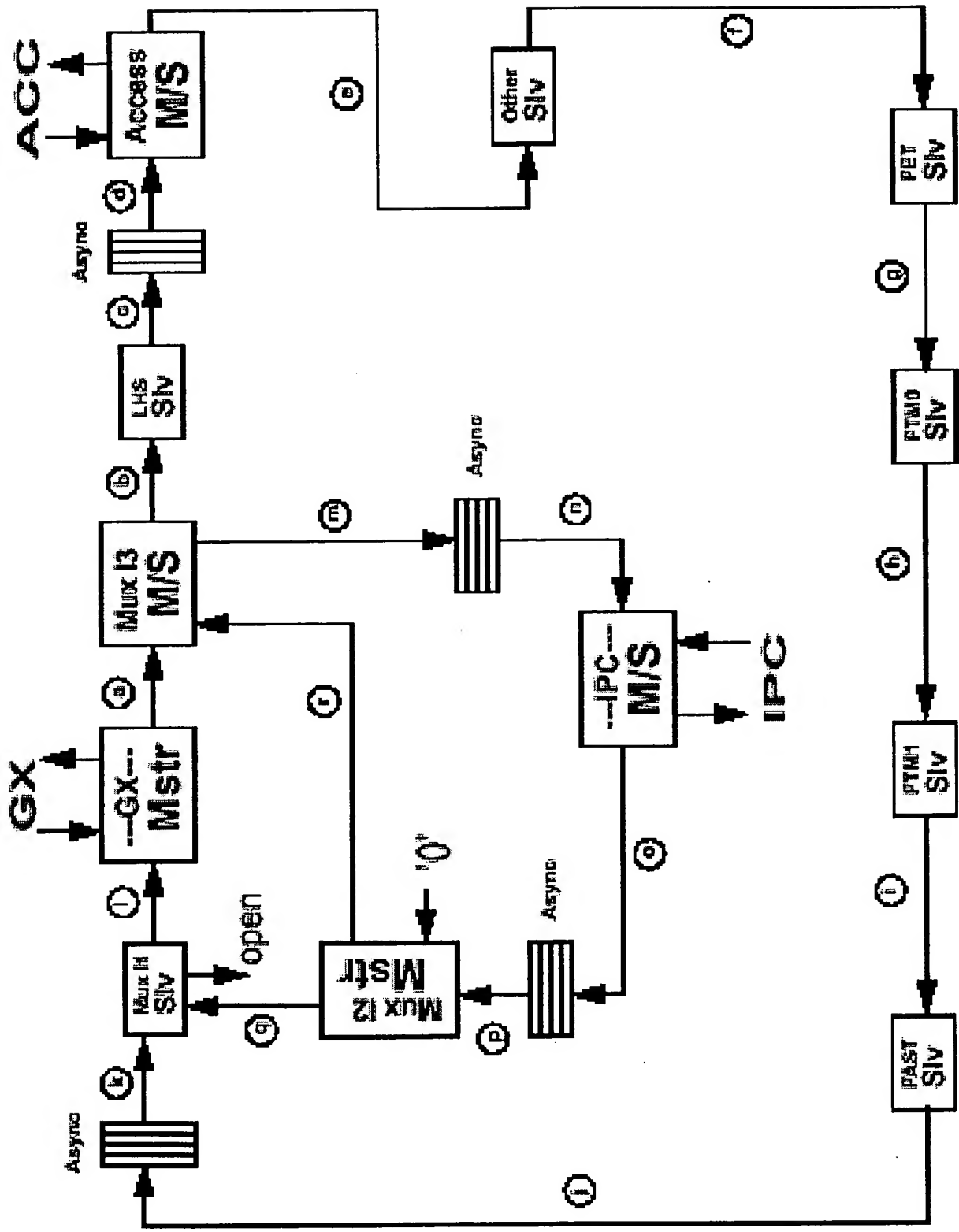


Figure 49

Pm 920030203 451

50/50

IPC Protocol Engine

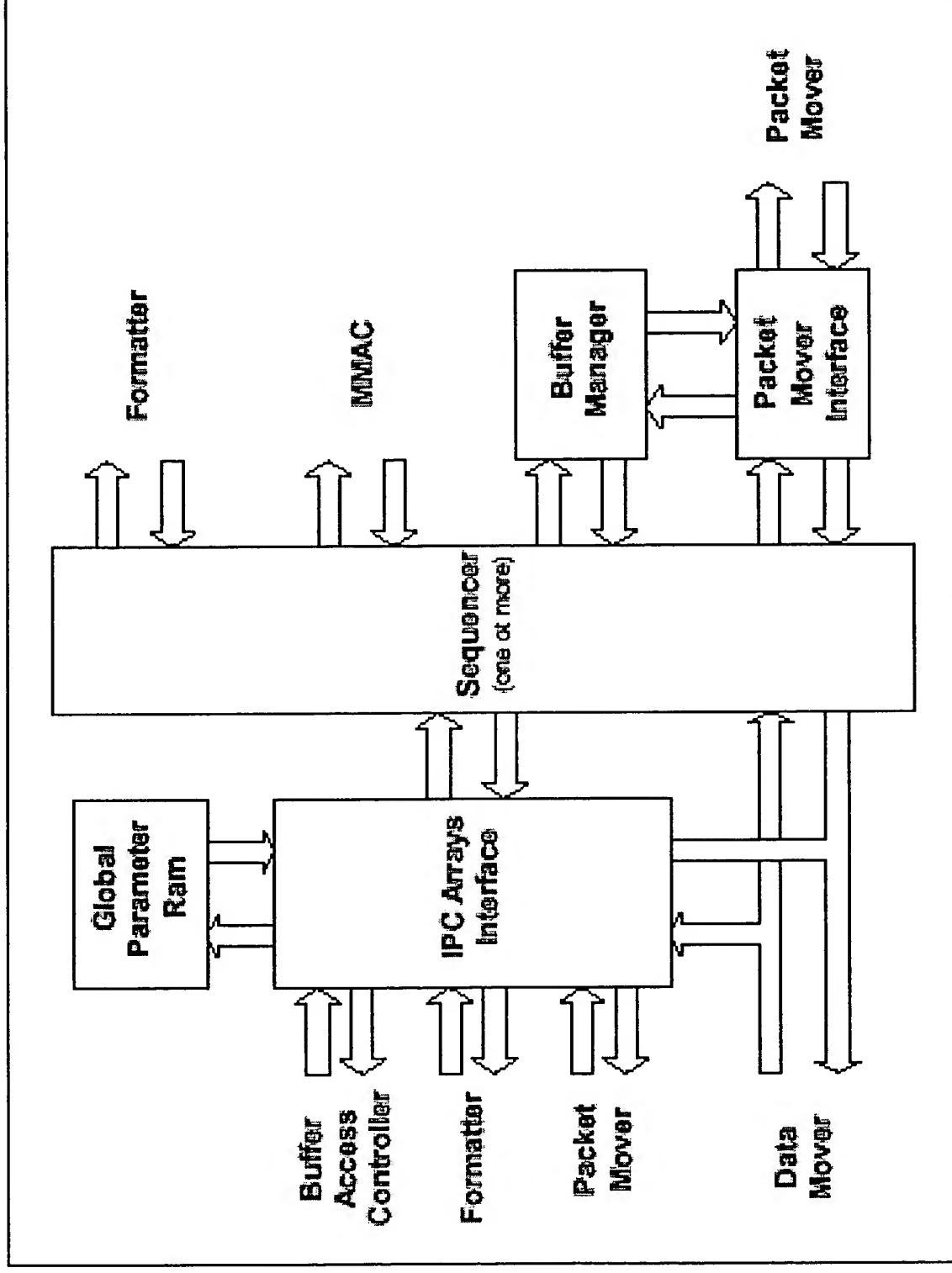


Figure 50